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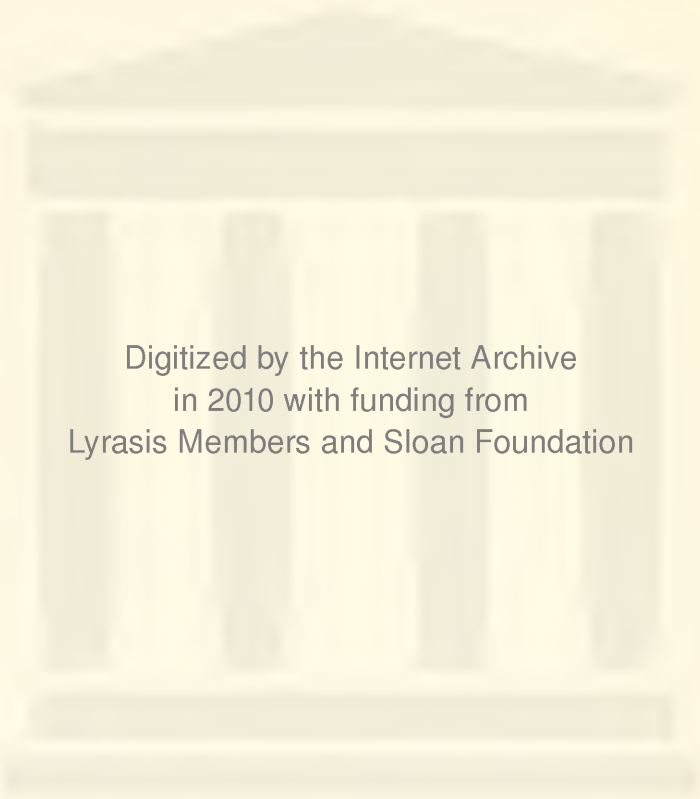
Graduate School

1981 1982



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University of New Haven

Graduate School 1981-82 Bulletin

University of New Haven
300 Orange Avenue
West Haven, Conn. 06516
(203) 934-6321

This bulletin supersedes all previous bulletins, catalogs and brochures published by the Graduate School and describes academic programs to be offered during 1981–1982. Graduate students admitted to the university in the fall of 1981 and thereafter are bound by the regulations published in this bulletin.

The University of New Haven is committed to affirmative action and to a policy which provides for equal opportunity in employment, advancement, admission, educational opportunity and administration of financial aid to all persons on the basis of individual merit. This policy is administered without regard to race, color, national origin, age, sex, religion or disabilities not related to performance. It is the policy of the University of New Haven not to discriminate on the basis of sex in its admission, educational programs, activities or employment policies as required by Title IX of the 1972 Education Amendments.

Inquiries regarding affirmative action, equal opportunity and Title IX may be directed to the director of equal opportunity.

The male generic terms appearing throughout this book refer to both males and females and are used for grammatical simplicity and semantic convenience.

The university reserves the right, at any time, to make whatever changes may be deemed necessary in admission requirements, fees, charges, tuition, regulations and academic programs prior to the start of any class, term, semester, trimester or session.

The *Bulletin of the University of New Haven* is published eight times per year in February, April, May (2), July (2) and November (2) by the University of New Haven, 300 Orange Avenue, West Haven, Connecticut 06516. Second class postage paid at New Haven, Connecticut, publication number USPS 423-410. Postmaster: please send form 3579 to Office of Public Relations, University of New Haven, P.O. Box 1306, New Haven, CT 06505.

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Calendar 1981-1982

Graduate School

1981-1982

Summer Term: Monday, July 13–Thursday, August 27

Fall term deadline for receipt of completed applications for admission and all supporting materials*	August 1

Fall Term: Wednesday, September 9–Thursday, December 17

Last day to register	Friday, August 28
Last day to **add** a class	Friday, September 18
Fall holiday	Monday–Tuesday, September 28–29
	Wednesday–Thursday, October 7–8
Last day to file petition for January graduation	Thursday, October 15
Holiday (Thanksgiving)	Wednesday–Saturday, November 25–28
Commencement	Sunday, January 17

Winter Term: Saturday, January 2–Thursday, April 1

Last day to register	Friday, December 18
Last day to **add** a class	Thursday, January 14
Holiday (President's Day)	Monday, February 15
(Monday classes will meet Friday, February 19)	
Last day to file petition for June graduation	Monday, March 1
Spring term deadline for receipt of completed applications for admission and all supporting materials*	Monday, March 1
Commencement	Sunday, June 6

Spring Term: Monday, April 5–Saturday, July 3

Last day to register	Friday, March 26
Last day to **add** a class	Thursday, April 15
Holiday (Memorial Day)	Monday, May 31
(Monday classes will meet Friday, June 4, usual time)	

* Prospective students completing their applications after this date may register for one term as nonmatriculated students. This registration of those whose applications are in process does not guarantee acceptance.

International students are not eligible for in process registration because of immigration requirements and should submit completed applications and all supporting materials well in advance of these deadlines.

Student participation contributes to the success of any graduate course.

General Information

The Graduate School of the University of New Haven offers master's degrees in 23 program areas at seven locations throughout Connecticut.

The main campus in West Haven offers all academic programs, and off-campus centers at Waterbury, Danbury, Trumbull, Middletown, Madison and Groton-New London offer courses leading to master's degrees in business administration, computer and information science and other programs.

The enrollment and programming needs of off-campus students at the Groton-New London center are coordinated by Dr. Robert DeMichiell, director for UNH in southeastern Connecticut (449-8518). Elaine Lewis is administrative coordinator for other off-campus centers (743-7883).

Most Graduate School courses are scheduled during the late afternoon, early evenings and on Saturdays to meet the needs of part-time, employed students.

Full-time enrollment also is possible in the following programs: business administration, public administration, accounting, taxation, criminal justice, environmental science, industrial engineering, industrial relations, computer and information science, forensic science, operations research, community psychology, organizational/industrial psychology, mechanical engineering and the dual M.B.A./industrial engineering degree.

The University of New Haven is fully accredited by the New England Association of Schools and Colleges. It is also a member of the Council of Graduate Schools, the Northeastern Association of Graduate School, the Academy of Criminal Justice Sciences, and the National Association of Schools of Public Affairs and Administration.

Admission

Director: John O'Brien, M.B.A., University of New Haven.

General requirements

Applicants to the University of New Haven Graduate School are required to have an undergraduate degree from an accredited institution. Certain programs have additional requirements for admission to specific curricula, details of which are included in the program listings later in the bulletin.

Admission decisions are based primarily on an applicant's undergraduate record. Prospective students who are currently completing their undergraduate study should submit an official transcript complete to the date of application. In most cases, an admission decision will be made on the basis of the partial transcript, contingent upon completion of the baccalaureate degree. Registration will not be permitted until a final, official transcript is submitted to the Graduate School admissions office.

In support of an application, students may submit their scores from the Graduate Record Examination (GRE), both the Aptitude Test and the Advanced Test, the Graduate Management Admission Test (GMAT) or the Miller Analogies Test. Students may be required to take one or more of these tests.

Procedure

An applicant for admission to the Graduate School must submit a formal application, two letters of recommendation, complete official transcripts of all previous college work and the nonrefundable application fee.

Students may be admitted for any term. Should a student be unable to enter the Graduate School during the term for which admission is granted, the acceptance will remain open for one calendar year. After one year, a new application for admission will be required.

Admission categories

Applicants and students in the Graduate School are assigned to one of three categories: fully matriculated, provisional or special.

Fully matriculated

Students accepted for entrance into a regular degree program are fully matriculated students.

Provisional

Applicants whose undergraduate average falls below the standard set for full matriculation may be accepted provisionally. Students accepted provisionally should seek out the advice of their coordinator or adviser so that their graduate work can be closely supervised.

Students must complete the work stipulated in their provisional acceptance before they will be evaluated for admission as fully matriculated graduate students.

Special

Special student status is reserved for students who do not wish to matriculate in a program. Registration is limited to 12 credit hours of graduate work. Should the student desire to continue graduate work, he or she must be accepted into a specific graduate program. Special students are responsible for seeing to it that prerequisite requirements for the courses they wish to take are met.

Students who wish to matriculate in a degree program, but complete their applications after the stated deadline, should register as *in process* students to take advantage of advisement in their fields of study. These students should not apply for *special student* status.

Auditors

An auditor is allowed to attend class and is expected to participate in class discussions and complete the required assignments. An auditor receives no grade or credit toward any degree. Auditor status does not imply admission to any of the graduate degree programs. Both registered students and nonstudents are eligible to audit University of New Haven Graduate School courses.

Admission of international students

Qualified international students are welcome as students in the Graduate School of the University of New Haven.

The major criterion for the admission of international students is the same as that used for citizens of the United States: Does the undergraduate preparation of the student qualify him or her for graduate study in a degree program at the University of New Haven? Since institutions and systems of higher education vary from country to country, the international applicant may expect that he or she will be asked to provide substantiation, not only of the courses taken and grades received, but also of the academic reputation of the undergraduate school within the educational system of the particular country. All transcripts must be provided in English.

In addition, the Graduate School requires that the applicant submit evidence of English proficiency. The Test of English as a Foreign Language (TOEFL) examination is recommended, but if undergraduate work has been completed in English or if arrangements for the TOEFL are difficult, the GRE or GMAT examinations may be substituted for the TOEFL. The Graduate School may also require that evidence of English proficiency be ascertained by an overseas interview, any charge for which must be borne by the prospective student.

Every international applicant will be evaluated carefully regarding undergraduate subject matter mastery and English proficiency. A student whose examination score falls below acceptable standards for English proficiency (which in the case of the TOEFL examination is 500–550) or whose undergraduate work does not provide necessary preparation for the particular program of study chosen in the Graduate School, may be admitted subject to the requirement that the course of study at the University of New Haven include intensive work in English and undergraduate courses, for which no graduate credit will be given.

International applicants for degree programs which require a thesis will be evaluated for English language writing skills. Further courses in writing skill development may be required.

International students will need to provide a signed financial resource statement prior to the issuance of an I-20, since the university must certify that it has checked the international student's finances. The University of New Haven does not offer financial assistance to international students.

One year's tuition, meaning the tuition for three, three-credit courses for each of three terms, is required in advance before a form I-20 will be issued. This tuition will be refunded according to usual refund policies if the I-20 is returned to the Graduate School Admission Office.

International students are required to have medical insurance, and may elect to purchase the university's student policy if they wish.

Since the review of applications from international students takes much longer than those from citizens of the United States, it is important that applications and all supporting materials be received by the Graduate School well before the stated deadline in the academic calendar.

U.S. immigration regulations require that students holding a student visa maintain adequate progress. Adequate progress means full-time study, which is generally interpreted to mean taking at least three courses each term. Prospective international students should, therefore, note that not all graduate programs are designed to permit full-time study. A complete listing of such programs is provided elsewhere in this bulletin.

Upon acceptance students are invited to contact the director of housing for assistance in locating living accommodations.

Graduate students studying under an F-1 visa are allowed 24 months to complete a degree program. All F-1 visa students must register for a minimum of 9 credit hours per term. Once visa students have completed their degree program the International Student Office will not issue an I-538 for extension of temporary stay, except for periods of practical training approved by the Graduate School and the U.S. Office of Immigration.

Registration

Registration deadlines are listed in the graduate calendar and in the class schedules that are published each term. Returning students and new students who have been admitted to programs will receive registration materials and can register by mail. Some departments have other procedures and will notify the students involved directly.

Prospective students who complete their applications after the stated deadline may register as *in-process* students. They will not receive registration materials in the mail but may register in person at the main campus or at an off-campus center. Proof that the in-process student has an undergraduate degree will be required at the time of registration, and, whenever possible, unofficial transcripts of previous course work should be provided to facilitate advisement. In-process status remains in effect for a maximum of one term, and in-process students may register for no more than six credits' work without the approval of the coordinator of the program for which they are applying.

It is the responsibility of in-process students to see to it that all materials in support of their application are received by the university in time for a matriculation decision before the next term. In-process students will not be permitted to register a second time until a matriculation decision has been made. Acceptance as an in-process student does not guarantee admission to the Graduate School.

Any student who fails to register for two consecutive terms will no longer receive registration materials. It will be the responsibility of the student to notify Graduate Records of the desire to continue graduate study.

No add slips will be accepted after the first week of class. A student may withdraw from a course any time prior to the last scheduled class meeting. Course additions or withdrawals may be handled in person or by mail.

The university reserves the right to change class schedules or instructors at any time. It further reserves the right to cancel any course, and, in such cases, will refund full tuition to the students.

Students with an outstanding balance will not be permitted to register. Current students who register after the registration deadline will be assessed a late registration fee.

Academic Policies

Academic counseling

Students may request academic counseling at any time. Appointments should be scheduled through department chairmen or program coordinators. Off-campus advisement evenings are held periodically.

It is the student's responsibility to select courses in accordance with prerequisites, the adviser's recommendations, the departmental plan of study (if required) and the requirements for the degree.

A student is not required to file a formal plan of study with the Graduate School. It is the student's responsibility to meet the stated requirements for the degree.

Awarding of degrees

The University of New Haven awards degrees twice a year, at commencements in January and in June.

A quality point ratio of 3.0 is required for graduation. Students completing the requirements for a degree at the end of the fall term will receive the degree in January. Students completing the requirements for a degree at the end of the winter term will receive the degree at the June commencement. Students completing the requirements for a degree at the end of the spring term will receive the degree the following January. Students completing the requirements for a degree in July will receive a formal statement that they have completed all requirements for the degree and will formally be awarded their diploma in January.

Candidates for January Commencement must file a petition with Graduate Records no later than October 14, and for June Commencement no later than March 1. Forms for this purpose are available in the Graduate School Office and in the Office of the Registrar. Payment of the graduation fee must accompany the petition.

Should a candidate not fulfill all the requirements for graduation before the deadline after having filed the petition to graduate and paid the fee, the student will have to petition again at a later date. At that time, only the refiling fee will be charged.

All financial obligations to the university must be met prior to graduation.

Grading system

The Graduate School uses the following grading system:

A —Superior performance
B —Good performance
C —Passing performance
F —Failure
P —Pass-carries credit hours toward the degree
S —Satisfactory performance in a noncredit course
W —Withdrawal from a course
I —Incomplete-given on rare occasions. A grade of I that is not changed within one calendar year automatically reverts to a **W.**
T —Used for thesis/seminar project students who have not completed work during the term in which they originally registered for the course. Students must complete their work within the maximum allowable time for graduate work.

Grade reports

Reports of the final grade in each subject will be mailed to the student soon after the close of each term.

Academic standards

The academic standing of each student is determined on the basis of the quality point ratio earned each term.

To determine a quality point, each letter grade earned during a term is assigned a quality point value:

A — Four quality points
B — Three quality points
C — Two quality points
F — Zero quality points
P — Zero quality points
S — Zero quality points
U — Zero quality points
W — Zero quality points
I — Zero quality points
T — Zero quality points

The quality point ratio is obtained by multiplying the quality point value of each grade by the number of semester hours assigned to each course in the bulletin, then dividing the total quality points carried by the total semester hours attempted.

A cumulative quality point ratio is obtained by calculating the quality point ratio for all courses attempted at the University of New Haven.

Repetition of work

A student may repeat a course, with the new grade superseding the old grade in the computation of the quality point ratio. The original grade remains on the transcript.

Probation and appeals

Any graduate student whose cumulative quality point ratio (QPR) is below 3.0, a B average, will be considered to be on academic probation, and may be required to obtain permission from the program coordinator before registering for additional

course work. A student whose cumulative QPR is below 2.7 after completion of 24 credits will be required to withdraw from the Graduate School.

Appeals concerning directed withdrawal from the Graduate School under these circumstances should be directed to the dean of the Graduate School, who will in turn refer the appeal to the department chairman and/or the responsible administrative unit.

Transfer credit

Transfer credit may be given for graduate courses taken at other accredited institutions subject to the following conditions:

a. the courses were at the graduate level;
b. each grade was B or better; and
c. the courses did not fulfill requirements for any other degree already earned by the student.

Graduate students at the university must secure written approval before taking courses at another institution if they plan to transfer that credit into their UNH program. Course Coordination forms are available in the Graduate School office for this purpose.

Waiver of courses

Some programs permit waivers of core courses on the basis of undergraduate courses taken at accredited institutions. Waivers of elective courses are not permitted, nor are waivers based upon experience. In such cases, substitution of a more advanced course may be allowed.

For a course to be waived, a student must first secure the written approval of the department chairman or a faculty member acting for the department chairman in the department in which the waiver is requested. Only fully matriculated students may seek waivers.

Thesis

A number of preliminary steps are required before registration for thesis will be accepted by the graduate registrar. The student completes the form, *Proposal for Theses*, ,in which the proposed subject, the methodology and the hypothesis are described. The student secures the approval signature of a faculty member who will serve as adviser. The student must also

secure the approval of the proposed thesis and the thesis adviser by the program coordinator and the dean of the Graduate School. Only after the graduate registrar has received the signed proposal form will the student be permitted to register for thesis.

A thesis will carry no fewer than six academic credits taken over no fewer than two academic terms. A preliminary draft must be presented to the adviser at least 45 days prior to commencement. Upon approval by the adviser and program coordinator, two final, unbound copies are presented to the Graduate School at least three weeks before commencement. After the dean of the Graduate School approves the thesis, credit is awarded and the thesis is deposited in the university library for binding and becomes part of the permanent collection. Additional copies may be required by the adviser or the program coordinator.

For guidance in the preparation of theses, graduate students should consult *A Manual for the Preparation of Graduate Theses and Technical Projects*, copies of which are available in the Graduate School Office. Questions not resolved by the instructions should be settled in consultation with the adviser and by reference to a standard style manual. The Graduate School participates in the University Microfilm Masters Program, and outstanding theses will be awarded this recognition upon the recommendation of the adviser, the program coordinator, or both.

Research projects, seminar projects, and independent study

Some departments and academic programs require the completion of research projects, seminar projects, or independent study rather than theses. In these cases, as with a thesis, students must have the written approval of their advisers and department chairmen prior to enrolling. This is accomplished by completing the form, *Proposal for Research Projects, Seminar Projects or Independent Studies*, and securing required approvals.

Students preparing a research project, seminar project, or independent study should follow the guidelines presented in the *Manual for the Preparation of Graduate Theses and Seminar Projects*, copies of which are available in the office of the Graduate School.

Time limit for completion of degree requirements

Students must complete all the requirements for their degree within five years of the date of their initial matriculation in the program. Any extension of the time limit can be granted only by the dean of the Graduate School after consultation with the appropriate program coordinator.

Residency requirements

Degree programs have a 30-graduate-credit residency requirement, with the exception of the M.B.A./M.S.I.E. dual degree program which has a 60-graduate-credit residency requirement. Credits toward the residency requirements may be earned at the main campus or at the off-campus centers. Students taking classes off-campus are reminded that the Graduate School strongly encourages, and scheduling limitations frequently require, that you plan on taking at least three courses at the Main Campus.

Graduate school ethics

It is Graduate School policy that all students are expected to complete all course requirements on their own initiative and endeavor, with no collaboration unless specifically authorized by an instructor. In addition, material used by students but authored by another individual, publisher, company, government or organization shall be identified as such by appropriate footnotes or references. Violations of this policy, either in fact or in spirit, will normally be handled by the faculty member involved though they may be grounds for dismissal from the Graduate School. Students wishing to appeal the decision of a faculty member should contact the Graduate School office.

It is the responsibility of the student to meet all classes and take all exams on schedule. Faculty have the right to require a standard of attendance, even if it conflicts with professional and job-related responsibilities of students. Students whose jobs require that they be absent from class must realize that it is their responsibility to determine whether such absence is permitted by the faculty member involved, and to meet their professor's requirements for making up missed work, if the professor allows missed time to be made up.

Professors may assess a make-up examination fee when a student is permitted to take an end-of-term examination at a time other than the scheduled time except for conflicts caused by the examination schedule.

A make-up test fee is assessed when a student is permitted to make up an announced test during the term. Both these fees are paid at the Business Office.

Tuition and fees

The following are the University of New Haven tuition, fees and charges which were in effect for the 1980-81 school year. The university reserves the right, at any time, to make whatever changes may be deemed necessary in admission requirements, fees, charges, tuition, regulations and academic programs prior to the start of any class, term semester, term or session.

Tuition*

Tuition, per credit hour	$105
Executive MBA program	7,500
Noncredit course fee, per course	198
Auditor, per course	198

Nonrefundable Fees

Application fee	$15
Auditor application fee	15
Graduate Student Council fee, per term	2
Graduation fee	35
Graduation refiling fee	15
Laboratory fee	28
Computer use fee	28
Late payment fee	10
Late registration fee, current students	15
Registration fee, per term	5
Senior professional certificate fee (payable upon completion of program)	10
Transcript fee, first copy	free
Additional copies	2
Fee for dropping a course	5
Make-up examination fee	5
Make-up test fee	3

*Tuition will be higher for 1981-82.

Payment

Tuition for graduate courses is due at registration. However, the university permits graduate students to pay tuition on an installment basis, paying one half with the registration form and the balance before the first day of the term. All students who have not completed tuition payments by the first day of the term will be assessed the late payment fee.

Students are responsible for payment of tuition to the university, even though they may be eligible for their employer's tuition reimbursement plan. Students are responsible for making their own arrangements with their employers for reimbursement.

The university withholds the giving of grades, the award of diplomas, the issuance of transcripts and the granting of honorable dismissal to any student whose account is in arrears.

The university accepts Master Charge and VISA for payment of tuition.

Withdrawal

To be eligible for a refund of tuition, students must formally notify the registrar of their intention to withdraw by completing the university withdrawal form and submitting it to the registrar by mail or in person. The date of the postmark on mailed withdrawal form, or the date of submission on those brought in person, determines the amount of the refund, if any, due the student.

Refunds

The refund policy for graduate students who withdraw from any course or from any program is as follows: 80% refund of tuition upon formal withdrawal prior to the second regularly scheduled class meeting, 60% refund of tuition upon formal withdrawal prior to the third regularly scheduled class meeting, 40% refund of tuition upon formal withdrawal prior to the fourth regularly scheduled class meeting, 20% refund of tuition upon formal withdrawal prior to the fifth regularly scheduled class meeting. No refund will be made after the fifth regularly scheduled class meeting.

Living costs

Estimated costs for attending the University of New Haven Graduate School for the 1980–81 academic year are as follows:

Single Student	*6 Credits*	*9 Credits*	*12 Credits*
Tuition and Fees	$ 637.	$ 952.	$ 1,267.
Books and Materials	60.	90.	120.
Base Living Costs	1,850.	1,850.	1,850.
Cost Per Trimester	$2,547.	$ 2,892.	$ 3,237.
Cost Per Year (10 months)	$7,641.	$ 8,676.	$ 9,711.

Married — No Children			
Tuition and Fees	$ 637.	$ 952.	$ 1,267.
Books and Materials	60.	90.	120.
Base Living Costs	2,548.	2,548.	2,548.
Cost Per Trimester	$3,245.	$ 3,590.	$ 3,935.
Cost Per Year (10 months)	$9,735.	$10,770.	$11,805.

Budgets are adjusted for additional family members.

Additional living costs for summer:

Single	$1,106.
Married	$1,485.

NOTE: Living costs are based on Estimated BLS Moderate Consumption Budget Standards (20-35 age group) adjusted to Fall 1980.

Source: GAPSFAS News and Notes Vol. II, No. 4, January 1979.

Financial support for graduate study

Financial support is available to graduate students in the form of assistantships, grants-in-aid, loans and work study.

Assistantships are competitive appointments. The full-time graduate assistant works 20 hours per week and receives compensation and partial tuition support. The part-time graduate assistant carries a varying work requirement of between 5 and 10 hours per week for which the assistant receives compensation, but no tuition support. These awards are generally made in the spring of the preceding academic year.

Grant-in-aid awards are based upon financial need and require that the Graduate and Professional School Financial Aid Service (GAPSFAS) application be received by the financial aid office no later than July 1, December 1, and March 1, depending upon when the student is beginning graduate study. Applications received after these dates can be acted upon only as funds permit.

The state of Connecticut and other states have established loan programs offering long-term loans at low interest rates. In Connecticut, a full-time graduate student may borrow up to a maximum of $5,000 each school year. Repayment starts six months after graduation. Federal interest benefits cover the full interest while in attendance and during the year following graduation.

Part-time employment is also available to graduate students under the college work-study program. The program enables students with financial need to work on- or off-campus for a maximum of 20 hours a week.

Application and eligibility

A GAPSFAS application is required for all forms of support based upon need. GAPSFAS applications are available in the financial aid office and the Graduate School office.

GAPSFAS applications are mailed by the student directly to GAPSFAS for processing, after which GAPSFAS will forward the application to the university. Generally, GAPSFAS requires four weeks to process applications before forwarding to the school. Since the university must receive the processed application by the deadline date, approximately four weeks before the start of the term for which the student is seeking aid, students are encouraged to file financial applications early. A list of exact university deadlines is available from the financial aid office.

International students are not eligible for financial assistance based upon need, since they must certify availability of sufficient funds at time of entry. Students on academic probation are not eligible for financial aid.

Title XX funds

All graduate students should be aware that they may be able to receive a waiver of tuition through Title XX. To receive this waiver, students must be full- or part-time paid employees of agencies receiving Title XX funding. At least 20% of students' professional responsibilities must involve face-to-face contact with clients of their agencies. In addition to completing all forms normally required for admission, students must complete Title XX forms.

Students who believe they qualify should contact the Title XX Office.

Class breaks are a time to share ideas, establish friendships.

Student Services

Alumni Association

Membership in the Alumni Association is acquired immediately upon graduation. All degree graduates become members automatically.

As a member of the Alumni Association, graduates receive an alumni card which enables them to use the library, gymnasium facilities and the services of the Career Development Office. In addition, alumni can now audit approved undergraduate and graduate courses. *Insight*, an all-college publication, is mailed to all alumni. Alumni volunteers play an important role in the annual giving campaign.

Athletics

Graduate students are encouraged to make use of the North Campus athletic complex. Facilities include three basketball courts, handball-paddleball court, weight room with universal gym, a multipurpose exercise room, steam room, fully equipped training room, six tennis courts, two softball fields, baseball diamond and combination football-soccer-lacrosse field.

Graduate students are eligible to take part in the intramural competition in touch football, badminton, bowling, three- and five-player basketball, paddleball, softball, tennis, floor hockey and volleyball.

Bookstore

The university's bookstore provides all necessary texts, new and used, that are required for courses at the university. It also carries related supplies, greeting cards, imprinted clothing, gifts, candy and a selection of paperbacks, newspapers and periodicals. The bookstore buys back used texts on a daily basis throughout the year. It also orders class rings and handles film processing for the campus community.

Special arrangements are made for students taking courses at off-campus locations to purchase required books at or near off-campus centers.

Career development and off-campus employment office

The Career Development Office offers individual counseling; special workshops on resume preparation, interviewing skills and job research techniques; as well as a monthly professional career testing service. Many employers conduct job interviews at the Career Development Office throughout the year, and a monthly schedule is printed in the alumni publication, *Insight*.

Computer facilities

The university Computer Center provides time-sharing and batch processing of jobs for both academic and administrative functions at the university.

The center maintains two independent, yet totally compatible, processing units. One system is dedicated solely to academic usage. The other handles administrative functions.

The center also supports another three computers: 1) a TRS-80 (LEVEL II BASIC); 2) an APPLE II micro-computer; 3) a NOVA 2 minicomputer with interactive graphics.

The center's academic system provides training in many computer languages to over 1,000 students in related programs. Training in the usage, programming and debugging of programs on interactive terminals and microcomputers is stressed.

Counseling

Individual counseling is offered to students for personal problems, for marital and domestic problems and for study and career choice problems. Students can obtain assistance for educational, vocational and general life problems.

The center offers psychological testing including vocational interest, personality assessment and academic placement.

Graduate student council

The Graduate Student Council is a forum where graduate students can provide input to the administration in order to improve all aspects of graduate education at the university. The council schedules a number of extracurricular activities, and all graduate students are encouraged to attend.

Handicapped services

The Office of Handicapped Services provides guidance and assistance to students with physical handicaps. The office also coordinates the university's compliance with section 504 of the H.E.W. Rehabilitation Act of 1973. All inquiries and problems concerning barrier-free access to university facilities should be addressed to this office.

Housing

The Office of Resident Services, located in the Student Center, will assist graduate students in finding off-campus housing accommodations. The office is open from 8:30–4:30, Monday through Friday, for any student wishing to find housing accommodations. The office has listings for apartments, houses and private rooms.

International students

Students from a number of countries belong to the University of New Haven student body. The Office of International Student Affairs provides assistance in the following areas: all documentation pertaining to the Immigration and Naturalization Service; school transfers from and to UNH; orientation programs for international students; referral service for agencies that assist internationals; and the friendship family program.

Library

The Marvin K. Peterson Library, named in honor of the former president of the university, was opened in 1974. It has a capacity of 300,000 bound volumes. Adjoining the Main Building, it includes special collection rooms, a music room, archives and spacious reading and reference areas. Study is made convenient by modern research facilities and equipment including microreading stations and micro-reader-printers.

The library contains more than 200,000 volumes, 75,000 U.S. government documents, 8,000 record albums, numerous corporate annual reports, pamphlet files and microfilm. The library subscribes to 1,100 periodicals, and extensive back issue files are maintained.

The resources of both the New Haven and West Haven public libraries are available to students (nonresidents must pay a fee). Under a reciprocal arrangement, University of New Haven

students may borrow materials from the libraries of Albertus Magnus College or Quinnipiac College by presenting a valid identity card.

Minority student affairs

The Office of Minority Affairs represents the need and interests of minority students at the University of New Haven. The office works closely with minority students to ease the transition into the academic environment while enabling the student to maintain cultural pride and heritage. The office also promotes social and cultural activities which are of special interest to minority students.

Publications

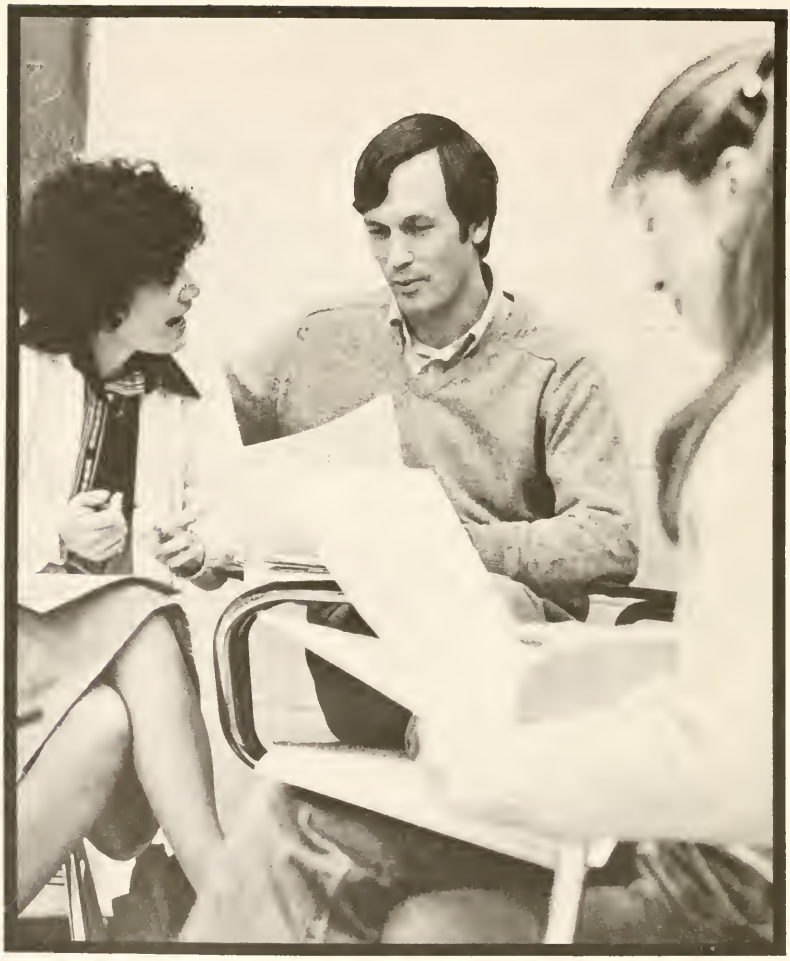
Student publications include *The News*, the university student newspaper; *The Chariot*, the annual yearbook; *The Noiseless Spider*, a literary publication; and the *Student Handbook*. Students may volunteer their services on any of the student publications.

Veterans affairs

Since the university has one of the largest veteran enrollments in Connecticut, an Office of Veterans Affairs with a full-time staff is maintained. In addition to processing applications for various V.A. benefits, the campus Veterans Office provides a wide range of supportive services for veterans attending the university. Assistance is available in academic areas, and special help such as funding for tutorial assistance, readers for the blind and aid for the disabled is also available.

WNHU radio

WNHU, the university's student-operated FM stereo broadcast facility, operates throughout the year on a frequency of 88.7 MHz at a power of 1,700 watts. This extracurricular activity, open to all university students, serves southern Connecticut with music, news and community affairs programming. Its sportscasters are the voice of University of New Haven Charger sport teams.



UNH graduate students learn by doing. Here, members of a collective bargaining class simulate a labor negotiating session.

Academic Programs

Accounting

Coordinator: Anne J. Rich, C.P.A., C.M.A.; Ph.D., University of Massachusetts

The overall objective of the master of science in accounting program is to provide a framework for accounting inquiry, devised in structure and content from the entire scope and process of accounting-information-based economic decision making. The existence of such a framework is intended to provide for graduate accountants and professional practitioners an opportunity to share in the development and assessment of issues of accounting interest within a decision-making context. Accordingly, the M.S. program is structured to receive its objective and direction from the overall objective of accounting – providing information useful to the process of economic decision making.

To accomplish this objective, the M.S. program offers a structure of studies designed to provide:

1. an examination of the foundations of economic decision making (foundation courses, 18 credits);
2. an analysis of the role and usefulness of accounting information for economic decision making (core courses, 15 credits); and
3. an opportunity for further selected specialization from the generally recognized branches or divisions of accounting inquiry (electives, 9 credits).

Each student, upon entering the program, will be assigned a faculty adviser who will assist the student throughout the program of study, particularly with the selection of suitable electives. The assigned faculty adviser will also act as, or assist in the selection of, the student's thesis adviser.

Admission policy

Admission to the program is open to persons holding an undergraduate degree from an accredited institution, preferably, but not exclusively, in accounting or in business administration with a major in accounting. Persons holding other than the above degrees will be required to take a number of selected undergraduate courses. Admission is based primarily on an

applicant's undergraduate record; however, the promise of academic success is the essential factor for admission. In support of their applications, persons may submit their scores from the GMAT. An applicant may be required to take this test.

Requirements for the degree Master of science in accounting

A minimum total of 42 credits on the graduate level will be required to earn the master of science in accounting. In addition, selected undergraduate courses in accounting may be required of students not holding an undergraduate degree in accounting. Individual programs of study are determined after a conference with the coordinator.

Thesis

All students are required to write a thesis. The thesis must show ability to organize material in a clear and original manner and present well-reasoned conclusions.

The complete and final manuscript must be submitted to the thesis adviser prior to the end of the tenth week of the term in which the candidate expects to complete the requirements for the degree. Thesis preparation and submission must comply with the Graduate School policy on Thesis detailed elsewhere in this bulletin.

Program of study

Required courses

Course number and title			*Credit*
Foundation courses			
EC	604	Macroeconomic Analysis	3
EC	603	Microeconomic Analysis	3
FI	651	Portfolio Management and Capital Market Analysis	3
FI	615	Finance	3
MG	637	Management	3
QA	604	Probability and Statistics	3
			18

Core courses

A	650	Advanced Accounting Theory	3
A	621	Managerial Accounting	3
A	654	Financial Statements: Reporting and Analysis	3
A	698	Thesis	6
			15
		Electives	9
		Total	42

Elective courses

Financial accounting specialization

A	651	Financial Accounting Seminar
A	652	Advanced Auditing
A	653	Accounting for the Not-for-Profit Organizations
A	656	International Accounting
FI	649	Security Analysis

Managerial accounting specialization

A	661	Managerial Accounting Seminar
A	641	Accounting Information Systems
A	642	Operational Auditing
FI	645	Corporate Financial Theory

Taxation specialization

A	601	Federal Income Taxation I
A	602	Federal Income Taxation II
A	604	Corporate Income Taxation I

Business Administration

Coordinator: William S. Y. Pan, Associate Dean, School of Business Administration; Associate Professor of Management Science, Ph.D., Columbia University

The general purpose of the M.B.A. program at the University of New Haven is the education of men and women at the graduate level for careers in business administration as well as other job areas requiring a sound grasp of business principles. The overall objective of the program is to enhance the student's perspective of managerial skills.

The program has been designed to develop a professional point of view in managing an organization. It further develops the student's ability to utilize the newest analytical and quantitative techniques used in corporate decision making. The student is also exposed to an in-depth analysis of various theories of business and managerial behavior, emphasizing the business organization in relation to its internal and external environment.

Another important objective of the program is to afford the student an opportunity to develop special skills by concentrating in a given study area.

Requirements for the degree Master of business administration

A total of 48 credits, with or without a thesis, is required of candidates for the M.B.A. degree.

Candidates for the M.B.A. degree are urged to write a thesis as part of the requirement for the degree. A thesis student has the opportunity to work with a faculty member on a mutually determined research project. Candidates who elect not to write a thesis must take two additional business courses in place of a thesis.

Students in the M.B.A. program are expected to be familiar with the use of computers in solving problems. The use of a computer is required in a number of courses in the M.B.A. program. Students deficient in this area should register for IE 603C, Introduction to Digital Computers: COBOL. Students wishing to learn FORTRAN should register for IE 603F. However, a student will only be granted graduate credit for either IE 603C or IE 603F, not both.

A student must complete the basic core before taking advanced courses in the M.B.A. program. The basic core consists of QA 604, QA 605 and two from among P 619, MG 637, EC 603, EC 604, EC 625 and A621. A student whose undergraduate degree is in a nonbusiness area may also be required, unless a waiver is granted, to take A 600, EC 600 and QA 600, which are noncredit graduate-level courses.

Waiver policy

Core courses in the M.B.A. program may be waived on the basis of undergraduate courses taken at accredited institutions. For a course to be waived, a student must first secure the written

approval of the department chairman or a faculty member acting for the chairman of the department in which the course is offered.

A course that has been waived cannot be taken for elective credit.

Thesis

Students electing to write a thesis must register for thesis in the appropriate business department. The thesis must show ability to organize material in a clear and original manner and present well-reasoned conclusions.

The thesis is written under the direction of the faculty member in charge of the departmental thesis program or a faculty member with special competence in the subject matter covered by the thesis. The complete and final manuscript must be submitted to the thesis adviser prior to the end of the tenth week of the term in which the student expects to complete the requirements for the degree. Thesis preparation and submission must comply with the Graduate School policy on Thesis detailed elsewhere in this bulletin.

Program of study

Required courses

Course number and title			*Credit*
EC	603	Microeconomic Analysis	3
EC	604	Macroeconomic Analysis	3
QA	604	Probability and Statistics	3
QA	605	Advanced Statistics	3
MK	609	Marketing	3
FI	615	Finance	3
MG	637	Management*	3
P	619	Organizational Behavior	3
A	621	Managerial Accounting	3
EC	625	Industrial Relations	3
		Thesis**	6
		Electives	12
			48

*Students in the Health Care Management Concentration take MG 640 in place of MG 637.

**Candidates who elect not to write a thesis must take two additional business courses in place of thesis.

Concentrations

Within the master of business administration program, students are allowed to concentrate their studies in a specific area. There are several structured concentrations offered by various departments.

A concentration consists of four courses taken in one area. With the permission of the adviser, students may substitute other appropriate courses for those listed as part of a concentration.

Accounting

Adviser: Anne Rich, Associate Professor of Accounting, Ph.D., University of Massachusetts

A	650	Advanced Accounting Theory
A	661	Managerial Accounting Seminar
		*plus any two accounting or taxation electives**

Computer and information science

Adviser: William S. Gere Jr., Professor of Industrial Engineering Ph.D., Carnegie-Mellon University

four courses from the following:

IE	603	Introduction to Digital Computers
IE	604	Management Systems
IE	605	Advanced Business Programming
IE	606	Advanced Technical Programming
IE	610	Computer Systems Selection
IE	614	Data Information Systems

Economic forecasting

Adviser: John J. Teluk, Professor of Economics, M.A., Free University of Munich

QA	607	Forecasting
EC	653	Econometrics
IE	603F	Introduction to Digital Computers: FORTRAN
		and one of the following:
MG	633	Managerial Economics
IE	606	Advanced Technical Programming
EC	665	Urban and Regional Economic Development
EC	690	Research Project
MK	639	Marketing Research and Information Systems

Finance

Adviser: Anne Rich

FI	651	Portfolio Management and Capital Market Analysis
FI	645	Corporate Financial Theory
FI	617	Financial Institutions and Capital Markets
		*and one of the following:**
FI	649	Security Analysis
FI	655	Commodity Market Analysis
FI	661	Real Estate: Principles and Practices
FI	619	Monetary and Central Banking Policy
FI	620	Working Capital Management and Planning
FI	670	Selected Topics

Health care management

Adviser: Kenneth Fox, Assistant Professor of Public Administration; Ph.D., University of Pennsylvania

MG	640	Management of Health Care Organizations (this course to be taken in place of MG 637 in the core of the M.B.A. program)
		and four courses from the following:
PA	642	Health Care Delivery Systems
PA	645	Health Care Economics and Finance
PA	643	Health and Institutional Planning
PS	635	Law and the Public Health
PA	644	Administration of Programs and Services for the Aged
PA	641	Financial Management of Health Care Organizations

*Candidates who elect not to write a thesis must substitute with written approval two elective courses. Elective courses are to be chosen in consultation with an accounting adviser or finance adviser.

Hospitality administration

Adviser: Ronald A. Usiewicz, Associate Professor of Hotel Management, Ph.D., Kent State University

Admission to the concentration in hospitality administration requires permission of the concentration adviser; certain undergraduate courses may be required.

four courses from the following:

HM 610 Content Seminar in Hospitality/Institutional/Tourism Administration
HM 625 Supervisory and Leadership Analysis in Tourism, Hospitality and Institutional Operations
HM 630 Personnel and Labor Relations in the Tourism/Hospitality/Institutional Fields
HM 635 Applied Dietetics for Health Care Professionals
HM 640 Haute Cuisine for Hospitality Executives
HM 655 Development of Hotel/Restaurant/Institutional Food Services

Human resource management

Adviser: Gene F. Brady, Associate Professor of Management Science, Ph.D., University of Oregon

four from the following:

MG 645 Management of Human Resources
MG 665 Compensation Administration
MG 678 Personnel Management Seminar
MG 679 Industrial Relations Seminar
MG 690/PA 690-1 Research in Human Resource Management
MG 695-6/PA 695-6 Independent Study in Human Resource Management

NOTE: Course substitutions are permitted depending on the background of the student and subject to the approval of the adviser. Among the courses which may be substituted are: P 627, P 628, P 641, PA 620, EC 625, EC 627 and EC 687.

International business

Adviser: Arvin F. Rodrigues, Assistant Professor of Marketing, Ph.D., Columbia University

four courses from the following:

IB	643	International Business Operations
MG	660	Comparative Management
IB	651	Comparative Marketing
IB	652	Multinational Business Operations
IB	644	Import and Export Business
EC	641	International Economics

Management and organization

Adviser: Gene F. Brady

four courses from the following:

MG	660	Comparative Management
MG	661	Development of Management Thought
MG	662	Organization Theory
MG	663	Leadership in Organizations
MG	664	Organizational Effectiveness
MG	669	Business Policy and Strategy
MG	680	Current Topics in Business Administration
MG	675	Readings in Management
MG	638	Cost-Benefit Management

Management science

Adviser: Gene F. Brady

IE	601	Introduction to Operations Research/ Management Science
IE	604	Management Systems
QA	606	Advanced Management Science
QA	607	Forecasting

Marketing

Adviser: Arvin F. Rodrigues

MK	639	Marketing Research and Information Systems
MK	641	Marketing Management
MK	643	Product Management

One other course in marketing

Media in business

Adviser: Marilou McLaughlin, Professor of Communication, Ph.D., University of Wisconsin

CO 601 is a prerequisite to CO 613.

CO 601 Basics of Business Media Production Techniques
CO 605 Planning Audio Visual Systems for Business
CO 609 Scripting the Media Presentation
CO 613 Media Presentations for Business

Operations research

Adviser: William S. Gere Jr.

IE 607 Probability Theory
IE 621 Linear Programming
IE 622 Queuing Theory
IE 686 Inventory Analysis

Hospitality Administration

Coordinator: Ronald A. Usiewicz, Associate Professor of Hotel Management, Tourism and Travel, Ph.D., Kent State University

This program, leading to the master of business administration degree with the hospitality administration option, is designed for those who have completed an undergraduate degree program in hospitality administration or a related major. The student who is not an undergraduate hospitality graduate will be permitted to complete the required undergraduate course work while satisfying the requirements for the M.B.A.

Thesis

Students electing to write a thesis must obtain the approval of the coordinator for a proposal prior to registration. The thesis must demonstrate ability to organize material in a clear and original manner and present well-reasoned conclusions.

The thesis is written under the direction of the faculty member in charge of the departmental thesis program or a faculty member with special competence in the subject matter covered by the thesis. The complete and final manuscript must be submitted to the thesis adviser prior to the end of the tenth week of the term in which the student expects to complete the requirements for the degree.

Thesis preparation and submission must comply with the Graduate School policy on Thesis detailed elsewhere in this bulletin.

Program of study

Required courses

Course number and title		*Credit*
EC 603	Microeconomic Analysis	3
EC 604	Macroeconomic Analysis	3
QA 604	Probability and Statistics	3
MK 609	Marketing	3
FI 615	Finance	3
MG 637	Management	3
P 619	Organizational Behavior	3
A 621	Managerial Accounting	3
EC 625	Industrial Relations	3
HM 698	Thesis*	6
	Electives**	3
		36

Core courses

HM 610	Content Seminar in Hospitality/ Institutional/Tourism Administration	3
HM 640	Haute Cuisine for Hospitality Executives	3
HM 655	Development of Hotel/Restaurant/ Institutional Food Services	3
HM 690	Research in Tourism/Hospitality/ Institutional Administration	3
		12

Elective courses**

HM 625	Supervisory and Leadership Analysis in Tourism/Hospitality/Institutional Fields
HM 630	Personnel and Labor Relations in the Tourism/Hospitality/Institutional Fields
HM 635	Applied Dietetics for Health Care Professionals

*Candidates who elect not to write a thesis may substitute two approved courses in the areas of hospitality, institutional food service, tourism administration or business.

**Elective courses are to be chosen in consultation with an adviser.

Possible additional undergraduate course requirements

Those candidates who have not completed undergraduate hospitality degree programs will be required to complete 24 to 36 credits of undergraduate hospitality administration courses. These courses will depend upon background in the field, work experience and related course work completed.

The *Undergraduate Bulletin* of the university lists descriptions of these courses.

Business Administration/ Industrial Engineering Dual degree program

Coordinator: William S. Gere Jr., Professor of Industrial Engineering, Ph.D., Carnegie-Mellon University.

The Graduate School has always encouraged interdisciplinary studies. To foster a broader expertise in the areas of business administration and industrial engineering, a student can now earn both the master of business administration and the master of science in industrial engineering by successfully completing the Dual Degree Program. The program is intended for students with undergraduate engineering or technical degrees from ECPD accredited schools.

Requirements for the dual degree Master of business administration/master of science in industrial engineering

The basic M.B.A./M.S.I.E. program consists of 72 credit hours. Up to 12 of these credit hours may be waived on the basis of undergraduate course work, leaving a minimum requirement of 60 credit hours. All waivers must be approved in writing by the appropriate department and are conditional upon subsequent academic performance.

Graduate credit may be transferred from other accredited institutions subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin. In all cases, the residence requirement for the two degrees shall be 60 credit hours completed at the University of New Haven. In addition, a minimum of 21 credit hours must be earned in business courses and a minimum of 21 credit hours must be earned in engineering courses.

Thesis

All students must write either a thesis or a seminar project. The thesis or project must show ability to organize material in a clear and original manner and present well-reasoned conclusions.

The thesis/project is written under the direction of the faculty member in charge of the departmental program or a faculty member with special competence in the subject matter covered

by the thesis/ project. The complete and final manuscript must be submitted to the thesis/project adviser prior to the end of the tenth week of the term in which the candidate expects to complete the requirements for the degree.

Thesis preparation and submission must comply with Graduate School policy on Thesis Requirements detailed elsewhere in this bulletin.

Program of study

Required courses

Course number and title			*Credit*
A	621	Managerial Accounting	3
FI	615	Finance	3
MK	609	Marketing	3
QA	605	Advanced Statistics	3
MG	637	Management	3
EC	625	Industrial Relations	3
EC	603	Microeconomic Analysis	3
EC	604	Macroeconomic Analysis	3
P	619	Organizational Behavior, *or*	
P	620	Industrial Psychology	3
IE	601	Introduction to Operations Research/ Management Science	3
IE	624	Quality Analysis	3
IE	603F	Introduction to Digital Computers (FORTRAN)	3
IE	604	Management Systems	3
IE	607	Probability Theory	3
IE	621	Linear Programming	3
IE	651	Human Engineering I	3
IE	686	Inventory Analysis	3
		Electives (Business)	6
		Electives (IE or Math)	6
			63
		plus either:	
		Project (Business or IE)	3
		Electives (Unrestricted)	6
		or:	
		Thesis	6
		Electives (Unrestricted)	3
			9
			72

Community Psychology

Coordinator: Robert J. Hoffnung, Associate Professor of Psychology, Ph.D., University of Cincinnati

Community psychology begins with the assumption that human problems occur within a social context and that the most effective interventions into these problems are those which take place within a community framework.

Accordingly, the M.A. program in community psychology provides broad training in current approaches to preventing and treating psychological distress at the level of social institutions, organizations and groups rather than just the individual. Methods of community analysis, consultation and crisis intervention are considered as well as program development, administration and evaluation.

Classroom study is closely integrated with supervised field experiences in a variety of human service organizations and community settings.

Graduates are able to assume positions of responsibility in a broad range of human service settings, such as mental health programs, youth service bureaus, community houses, child development programs, municipal services, halfway houses, senior citizens centers, private agencies, health care systems and community action programs.

We welcome full- and part-time students with varying degrees of human service experience.

Admission policy

An undergraduate degree from an accredited institution is required. A major in psychology is preferred but not required. However, all students are expected to have at least an introductory level understanding of psychological concepts, principles and methods before entering. Students who have not had an undergraduate course in statistical methods will be required to take one before entry into P 609. We prefer students with strong academic records but welcome applications from students whose work and related experiences suggest potential for success in community psychology.

Applicants are required to submit materials directly to the Graduate School. They may be required to submit scores from either the Miller Analogies Test or the Graduate Record Examinations Aptitude Test, at the discretion of the department. Students intending to go on for further graduate work are strongly encouraged to take the GRE early in the first year.

Requirements for the degree Master of arts in community psychology

The program consists of 42 credit hours, 27 of which are of the core curriculum completed by all students and 12 of which constitute one of two areas of concentration. On entering the program each student chooses one of the concentration options. Typically, students complete most of the core requirements before focusing on their concentration.

Each of concentration areas is designed to enable the student to specialize in one major component of the core curriculum. The Community Organization and Program Consultation Concentration emphasizes social system analysis and change, grass roots organizing, and the development and administration of traditional and non-traditional programs and service settings. The Community Mental Health Concentration focuses on the interplay between direct, clinically-oriented services and indirect services, with special stress on the comprehensive community mental health center and the psychological clinic as service delivery settings.

Program of study

Required courses

Course number and title			*Credit*
P	605	Survey of Community Psychology	3
P	607	Special Problems in Community Psychology	3
P	609	Research Methods	3
P	610	Program Evaluation in Community Psychology	3
P	611	Practicum Seminar I: The Dyadic Relationship	3
P	614	Field Work I	2
P	612	Practicum Seminar II: Models of Consultation	3
P	615	Field Work II	2
P	613	Practicum Seminar III: Systems Intervention	3
P	616	Field Work III	2
			27
		Elective	3
		Concentration	12
			42

Community organization and program administration concentration*

P	619	Organizational Behavior	3
P	623	Psychology of the Small Group	3
P	631	Social Psychology	3
P	642	Organizational Change and Development	3
P	650	Ecological Psychology	3
PA	604	Seminar in Communities and Social Change	3
			12

Community mental health concentration*

P	621	Behavior Modification	3
P	625	Developmental Psychology	3
P	628	The Interview	3
P	629	Introduction to Counseling	3
P	632	Group Dynamics and Group Treatment	3
P	634	Personality Assessment	3
P	636	Abnormal Psychology	3
			12

*Students will choose 4 courses from those offered within a single concentration.

Practicum seminars and field work

Supervised field experience in a variety of settings represents a major component of the M.A. program in community psychology. Students plan their field work activities under the guidance of both the program's field placement coordinator and their superviser from the field setting. In order to maximize the potential for learning inherent in these experiences all students take practicum seminars whose content reflects the focus of their field work activities. These seminars enable students to conceptualize within a broader theoretical framework issues which they encounter in the field.

Students with a year or more of appropriate full-time human service experience in a particular field work area will be allowed to substitute an elective for the field work, contingent upon approval of the program coordinator. All students are required to take the three practicum seminars.

Thesis

Students who elect to write a thesis must register for P 698, Thesis I, and P 699, Thesis II. The thesis must show ability to organize materials in a clear and original manner and present well-reasoned conclusions. A thesis is strongly recommended for students wishing to pursue doctoral training after graduation.

The thesis is written under the direction of the faculty member in charge of the thesis seminar or a faculty member with special competence in the subject area of the thesis. The complete and final manuscript must be submitted to the thesis adviser prior to the end of the tenth week of the term in which the candidate expects to complete the requirements for the degree.

Transfer credit

Transfer credit may be given for graduate course work completed at other accredited institutions, subject to the Graduate School policy detailed elsewhere in this bulletin.

Computer and Information Science

Coordinator: William S. Gere Jr., Professor of Industrial Engineering, Ph.D., Carnegie-Mellon University

The master of science in computer and information science curriculum is an interdisciplinary program with a software orientation. It is designed to provide a high-level academic background for CIS managers and systems analysts in all career areas. A wide selection of electives allows students to concentrate in either technical or business applications.

Requirements for the degree Master of science in computer and information science

The basic program consists of 48 credit hours. Required courses may be waived on the basis of undergraduate courses taken at accredited institutions.

All waivers must be approved in writing by the industrial engineering department, and are conditional upon subsequent academic performance. The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin.

For students with little background in computers and programming (no more than one prior course), IE 602, Computing Fundamentals is required; elective credit will be awarded for the course.

Seminar project

The program requires all students to complete IE 690 Seminar Project. This requirement is met by the preparation of a relevant seminar project report, prepared under the direction of a faculty adviser. The complete and final manuscript must be submitted to the project adviser prior to the end of the tenth week of the term in which the candidate expects to complete the requirements for the degree. For further specifications, see *Research Projects, Seminar Projects and Independent Study Requirements* detailed elsewhere in this bulletin. It is suggested that a student begin work on the seminar project after having completed at least 15 credit hours.

In certain cases, students who routinely complete projects similar to the required Seminar Project as a part of their professional duties may petition to satisfy the Seminar Project requirement by taking two advanced industrial engineering electives in place of the project. Such a substitution must have the prior written approval of the program coordinator.

Program of study

Required courses

Course number and title			*Credit*
IE	603C	Introduction to Digital Computers (COBOL), *or*	
IE	603F	Introduction to Digital Computers (FORTRAN)	3
M	610	Fundamentals of Calculus and Linear Algebra	3
IE	604	Management Systems	3
IE	614	Data Information Systems	3
EE	615	Introduction to Computer Logic	3
IE	601	Introduction to Operations Research/ Management Science	3
IE	605	Advanced Business Programming, *or*	
IE	606	Advanced Technical Programming	3
IE	610	Computer Systems Selection	3
IE	690	Seminar Project	3
		Electives (I.E., Math, or E.E.)	9
		Electives	12
			48

Criminal Justice

Director: Richard E. Farmer, Assistant Professor of Criminal Justice, Ed. D., Boston University

The President's Commission on Law Enforcement and Administration of Justice assigned a high priority to the task of improving the education and training of personnel entrusted with the administration of criminal justice in the United States.

A key objective of the master of science in criminal justice program is the training and education of men and women planning careers in the field of criminal justice as well as the advanced training and education of the men and women who staff the agencies and institutions of the criminal justice system.

The university views the criminal justice system as one continuous integrated process from a study of the nature of deviant behavior to the role of rehabilitation and parole.

The program stresses a broad understanding of the social and behavioral sciences, the institutions of the criminal justice system, and the development of methodological tools and skills. This is done somewhat at the expense of courses that are narrowly professional in the belief that the field of criminal justice is dynamic and that a broad understanding of the social and behavioral sciences and the methodological skills and tools will prove more valuable to a student's career in the long run than narrow professional training.

The broad fields of the criminal justice program at the university are social and behavioral science, the institutions of the criminal justice system and methodological tools and skills.

The courses in the area of social and behavioral science stress the theories of the behavior of man in a social order and the sanctions imposed by different societies to control the social behavior of their members.

Courses in the area of criminal justice institutions stress the study of the existing system from the police, through the courts, the penitentiaries, and the system of probation and parole.

The methodological courses expose students to the tools of research and analysis and the contribution of systems analysis to the efficient administration of the criminal justice system.

Admission policy

In addition to the general Graduate School admission requirements, all criminal justice applicants must take the Aptitude Test of the Graduate Record Examination or the Miller Analogies Test as part of the admission procedure. GRE applications are available in the Graduate Office or by writing directly

to the Educational Testing Service, Princeton, N.J. Miller Analogies Test may be taken at the UNH Counseling Center. Applicants are also required to complete a questionnaire to be submitted directly to the Graduate School.

Requirements for the degree Master of science in criminal justice

A total of 45 credit hours is required of candidates for the degree of master of science of criminal justice.

Candidates must complete required credit hours of required courses in the core curriculum. After consultation with their adviser, students select credit hours of electives from approved courses in the departments of criminal justice, economics, psychology, political science, sociology, industrial engineering and management science.

The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin.

Thesis

Students electing to write a thesis must register for thesis with the department. The thesis must show ability to organize material in a clear and original manner and present well-reasoned conclusions.

The thesis is written under the direction of the faculty member in charge of the departmental thesis program or a faculty member with special competence in the subject matter covered by the thesis. The complete and final manuscript must be submitted to the thesis adviser prior to the end of the tenth week of the term in which the student expects to complete the requirements for the degree.

Thesis preparation and submission must comply with the Graduate School policy on Thesis detailed elsewhere in this bulletin.

Program of study

Required courses

Course number and title			*Credit*
CJ	601	Seminar in Interpersonal Relations	3
CJ	605	Social Deviance	3
CJ	610	Administration of Justice	3
CJ	628	Introduction to Systems Theory	3
CJ	635	Statistics in the Public Sector	3
CJ	637	Contemporary Issues in Criminal Justice	3
CJ	642	Research Techniques in the Social Sciences	3
		Electives (Approved)	24
			45

Concentrations

In addition to the master of science degree program in criminal justice, there are two concentrations that a student may choose to elect.

Concentration in criminal justice management

This concentration is designed for those individuals wishing to pursue a career in the management of a criminal justice agency. Courses are offered jointly between the Division of Criminal Justice and the Department of Public Administration.

Required courses

Course Number and Title			*Credit*
CJ	601	Seminar in Interpersonal Relations	3
CJ	610	Administration of Justice	3
CJ	612	Criminal Justice Management	3
CJ	628	Introduction to Systems Theory	3
CJ	635	Statistics in the Public Sector	3
CJ	642	Research Techniques in the Social Sciences	3
CJ	655	Bureaucratic Organization of Criminal Justice	3
PA	602	Public Policy Formulation and Implementation	3
PA	604	Seminar in Communities and Social Change	3
PA	620	Personnel Administration and Collective Bargaining in the Public Sector	3
PA	632	Public Finance and Budgeting	3
		Electives (Approved)	12
			45

Concentration in correctional counseling

This program, offered jointly between the Division of Criminal Justice and the Department of Psychology, is designed for those individuals currently in correctional counseling positions or those who anticipate a career in correctional counseling.

Required courses

Course Name and Title			*Credit*
CJ	601	Seminar in Interpersonal Relations	3
CJ	610	Administration of Justice	3
CJ	622	Learning Theory: Applications in Criminal Justice	3
CJ	624	Group Process in Criminal Justice	3
CJ	693	Criminal Justice Internship I	3
P	611	Practicum Seminar I: The Dyadic Relationship	3
P	618	Community Mental Health Philosophy and Concepts	3
P	628	The Interview	3
P	629	Introduction to Counseling	3
		Electives* – Criminal Justice	9
		Elective* – Psychology	9
			45

*Electives will be chosen by consent of adviser. Students may be required to take CJ 694 – Internship II, depending upon experience, ability, and background.

Electrical Engineering

Coordinator: Gerald J. Kirwin, Professor of Electrical Engineering, Ph.D., Syracuse University

This program is intended to meet the needs of professionally employed engineers and scientists for academic work beyond the baccalaureate level. It has been designed to deepen the understanding of modern analysis and synthesis techniques as they apply to engineering design. A major goal of this program is to provide a discussion of the characteristics of the latest devices and systems and of their applications in current engineering design. Both analytical and numerical procedures are developed with particular emphasis on the use of computers for problem solving and as elements in larger systems.

The program centers on a core sequence which all students are expected to take. The core courses contain advanced methods of analysis and design which are of common interest to electrical engineers. Each student completes a program by electing courses that are particularly suited to current personal interests. In general the elective courses must be chosen from those listed below. Early in the program the student, with the help and approval of an adviser, prepares a detailed plan insuring an overall educational experience that is integrated and logical. All decisions regarding both core and elective courses are subject to the final approval of the student's adviser.

Admission policy

Admission to the program is open to persons holding an undergraduate engineering degree from an institution accredited by the Engineers Council for Professional Development (ECPD). Though admission decisions are based primarily on an applicant's undergraduate record, the promise of academic success is the essential factor for admission.

Requirements for the degree Master of science in electrical engineering

A minimum total of 39 credit hours must be completed to earn the master of science in electrical engineering degree. The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin.

Thesis

There is no specific thesis requirement for the master of science in electrical engineering. However, students are encouraged to submit a thesis proposal covering applied research in an area of mutual interest to the student and a supervising member of the faculty. If a proposal shows promise of yielding a worthwhile contribution to the professional objectives of the student, and a faculty member accepts the role of supervisor, the student may embark upon the research and earn 6 elective credits. Students electing to do a thesis project will be expected to make an oral presentation of the results of the project.

The complete and final manuscript must be submitted to the thesis adviser prior to the end of the tenth week of the term in which the candidate expects to complete the requirements for the degree. Thesis preparation and submission must comply with the Graduate School policy on Thesis detailed elsewhere in this bulletin.

The thesis is deposited permanently in the library. Students are required to submit two copies of the thesis for the library. Additional copies of the thesis are usually required. For this requirement and other regulations regarding the preparation of a thesis, students should consult the "Manual for the Preparation of Graduate Theses and Seminar Projects." Copies of the manual are available in the Graduate School office.

Program of study

Required courses

Course number and title			*Credit*
M	624	Applied Mathematics	3
M	632	Methods of Complex Analysis	3
M	620	Numerical Analysis	3
IE	685	Theory of Optimization	3
EE	603	Discrete and Continuous Systems I	3
EE	604	Discrete and Continuous Systems II	3
EE	630	Electronic Instrumentation I	3
EE	640	Computer Engineering I	3
EE	650	Random Signal Analysis	3
		Electives (Approved)	12
			39

Elective courses

EE	605	Modern Control Systems
EE	608	Computer Aided Design
EE	631	Electronic Instrumentation II
EE	634	Digital Signal Processing I
EE	635	Digital Signal Processing II
EE	641	Computer Engineering II
EE	645	Power Systems Engineering I
EE	646	Power Systems Engineering II
EE	658	Microprocessors–Theory and Applications
EE	670	Special Topics–Electrical Engineering
EE	695	Independent Study I
EE	696	Independent Study II
EE	698	Thesis I
EE	699	Thesis II

Environmental Engineering

Coordinator: M. Hamdy Bechir, Associate Professor of Civil Engineering, Sc. D., Massachusetts Institute of Technology

The environmental engineering program is intended to meet the needs of engineers for academic work beyond the baccalaureate level. The program is interdisciplinary in nature and incorporates both engineering and science courses.

There exists today a need for a substantial number of engineers knowledgeable in environmental areas. Industries which are required to control the pollution of air and water need environmental engineers. Federal, state and local governments must hire employees and consultants to assist them in environmental matters. Other new vistas will undoubtedly open to the environmental engineers in the future. Environmental engineers will be in increasingly greater demand with the continually increasing problems of pollution.

The recognition and solution of environmental problems are largely the responsibility of engineers and scientists. To perform effectively in this massive effort, they must be technically competent as well as knowledgeable in social and economic matters.

This program provides the advanced educational skills necessary to meet the ever increasing need for engineers with an environmental background. It is designed to offer vigorous, professionally oriented, engineering and science courses in the areas of solid waste, water and air pollution.

Approximately two-thirds of the program consists of a required sequence of courses which each student must complete. The balance of the program consists of courses selected from the list of electives. Selection will be based on the student's principal field of interest. Each student, upon entering this program, will be assigned a faculty adviser who will consult with the student during the program of study and will assist the student in selection of suitable electives. The faculty adviser will also act as the student's research project adviser.

Admission policy

Candidates for admission in the environmental engineering program are expected to have an engineering degree from an institution accredited by the Engineers Council for Professional Development.

Requirements for the degree Master of science in environmental engineering

A total of 39 credit hours must be completed to earn the master of science in environmental engineering degree. The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin.

Program of study

Required courses

Course number and title		*Credit*
CE 601	Water Treatment	3
CE 602	Wastewater Treatment	3
CE 605	Solid Waste Management	3
CE 606	Environmental Law and Legislation, *or*	
EC 608	Economics for Public Administrators	3
CH 601	Environmental Chemistry	3
SC 601	Ecology for Environmental Engineers	3
SC 602	Pollutants and the Aquatic Environment, *or*	
SC 603	Air Pollution	3
CE 612	Advanced Wastewater Treatment	3
CE 613	Industrial Wastewater Control	3
CE 690	Research Project	3
	Electives (CE)	3
	Electives (Approved)	6
		39

Environmental Sciences

Coordinator: Dennis L. Kalma, Associate Professor of Science and Biology, Ph.D., Yale University

The environmental sciences program is intended to meet the needs of scientists for academic work in environmental studies beyond the baccalaureate level. The program is interdisciplinary in nature and incorporates science and engineering courses. This program is designed to accommodate the student with a degree in one of the natural sciences.

There exists today a need for a substantial number of scientists knowledgeable in environmental areas. Industries which are required to control the pollution of air and water need environmental scientists. Federal, state and local governments must hire employees and consultants to assist them in environmental matters. Other new vistas will undoubtedly open to the environmental scientists of the future. Environmental scientists will be in increasingly greater demand with the continually increasing problems of pollution.

The recognition and solution of environmental problems are largely the responsibility of scientists and engineers. To perform effectively in this massive effort, they must be technically competent as well as knowledgeable in social and economic matters.

This program provides the advanced educational skills necessary to meet the ever increasing need for scientists with an environmental background. It is designed to offer vigorous, professionally oriented, science and engineering courses in the areas of solid waste, water and air pollution.

Approximately two thirds of the program consists of a required sequence of courses which each student must complete. The balance of the program consists of courses selected from a list of electives. Selection will be based on the student's principal field of interest. Each student, upon entering this program, will be assigned a faculty adviser who will consult with the student during the program of study and will assist in selection of suitable electives.

Admission policy

Candidates for admission to the environmental sciences program would be expected to have a degree in one of the natural sciences in which certain prerequisite courses have been completed. Students without these courses would be admitted to the program after completing these prerequisites.

Requirements for the degree Master of science in environmental sciences

A total of 42 credit hours must be completed to earn the master of science in environmental sciences degree. The transfer of credit earned at other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin.

Program of study

Required courses

Course number and title			*Credit*
CE	601	Water Treatment, *or*	
CE	602	Wastewater Treatment	3
CE	605	Solid Waste Management	3
CE	606	Environmental Law and Legislation, *or*	
EC	608	Economics for Public Administrators	3
CH	601	Environmental Chemistry	3
SC	601	Ecology for Environmental Engineers	3
SC	602	Pollutants and the Aquatic Environment	3
SC	603	Air Pollution	3
SC	608	Water Quality	3
SC	612	Freshwater and Marine Biology	3
SC	698-9	Thesis I & II	6
		Electives (Approved)	9
			42

Executive Master of Business Administration

Director: John Moore, Assistant Professor of Management Science, Ph.D., Southern Illinois University

The Graduate School and the School of Business Administration offer an executive master of business administration (EMBA) degree for high-level executives with extensive

managerial experience. The program is designed specifically in consideration of managerial responsibilities and existing time constraints.

The EMBA degree program is a two-year, part-time degree program organized to meet the educational needs and executive responsibilities of corporate and institutional leaders. Individual participation is emphasized through class discussions and cooperation with others in the class. Each class is generally limited to between 15 and 20 students. Class members commence and conclude the program as a group.

No graduate transfer credit is accepted into the EMBA program. Admission to the EMBA degree program is by special application, the form for which may be obtained from the EMBA Program Director. Classes commence in September and January, providing a sufficient number of qualified applicants have applied from which proper selection may be made. An admission committee screens the applications to insure proper selection. Although students are required to complete the Graduate Management Admission Test (GMAT), other important factors such as current position, length of top management experience and prior formal education are important factors in the selection process. The selection committee attempts to provide from among the applicants those individuals who will bring a diverse grouping of managerial skills and experiences, thereby allowing the students to learn from each other as well as from the faculty.

The program consists of twenty courses scheduled into two ten-month academic calendar years. Each course is four sessions in length. All classes meet one afternoon/early evening per week in designated off-campus conference facilities for participant convenience. Participants must agree in advance to attend all classes except for emergencies. They must be prepared to devote additional time for class preparation and reading assignments.

Upon completion of the program, participants will be awarded the degree of master of business administration (the executive program).

Information concerning admission procedures and the academic calendar may be obtained by writing to the EMBA program director.

Program of study

Required courses

Course number and title		*Credit*
EXID 903	The Communication Process	1½
EXID 906	The Management Process	1½
EXID 909	Business and Government Relations	1½
EXID 912	Financial Accounting	1½
EXID 915	Quantitative Decision Making	1½
EXID 918	Managerial Economics	1½
EXID 921	Executive Development Seminar	1½
EXID 924	Financial Management I	1½
EXID 927	Financial Management II	1½
EXID 930	Marketing Management	1½
EXID 933	International Business Seminar	1½
EXID 936	Logistics and Distribution	1½
EXID 939	Operations Research and Management	1½
EXID 942	Managerial Accounting	1½
EXID 945	Human Resource Management	1½
EXID 948	Labor-Management Relations	1½
EXID 951	Marketing Management Seminar	1½
EXID 954	Organizational Development	1½
EXID 957	Corporate Policy and Strategy	1½
EXID 960	The Executive Seminar	1½
		30

Forensic Science

Director of Forensic Laboratory: Henry C. Lee, Professor of Criminal Justice, Ph.D., New York University; Chief Criminalist, Connecticut State Police (on leave).

Director: R. E. Gaensslen, Associate Professor of Criminal Justice, Ph.D., Cornell University

Forensic science is a broad interdisciplinary field in which the natural sciences are employed to analyze and evaluate physical evidence related to matters of law. The interdisciplinary forensic science program provides the advanced technical background for professionals in the forensic science field as well as for those in allied fields, such as pathology, law, criminal justice administration, security, various areas of investigation in crime, fire and insurance, environmental studies and chemistry, for whom knowledge of the concepts and methods of forensic science is vital for the advancement of their professional performance.

The master of science in forensic science program stresses not only up-to-date analytical and scientific methods, but also the broad and understanding of forensic science concepts. The program centers on a core sequence of courses which all students are expected to complete. Students may then concentrate in either criminalistics or administration.

Admission policy

For admission to the master of science in forensic science program, a student must have an undergraduate degree in a natural or related science. Applicants with deficiencies in one or more areas may be provisionally accepted and will be required to complete the appropriate background courses during the early stage of the program before being fully matriculated. Applicants must take the aptitude test of the Graduate Record Examination or the Miller Analogies Test, and complete a questionnaire to be submitted directly to the Graduate School.

Requirements for the degree Master of science in forensic science

Candidates are required to complete 40 credit hours of graduate work, which may include an internship in a forensic science laboratory or equal work with other related agencies. The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin.

Thesis

Students electing to write a thesis must register for thesis credit with the department. The thesis must show an ability to organize material in a clear and original manner, and present well-reasoned conclusions. Thesis preparation and submission must comply with Graduate School regulations detailed elsewhere in this bulletin.

The forensic science laboratory of the university is available for research, and the laboratory maintains close contact with various laboratories in the area to afford students the opportunity to observe, study and learn from many outstanding forensic scientists.

Program of study

Required courses

Course number and title			*Credit*
CJ	647	Advanced Criminalistics I	4
CJ	648	Advanced Criminalistics II	4
CJ	657	Physical Analysis in Forensic Science	4
CJ	659	Biomedical Methods in Forensic Science	4

Additional courses may be taken from the following areas:

Basic science electives

CH	611	Special Topics in Advanced Organic Chemistry	3
CH	621	Chemical Forensic Analysis with Laboratory	4
CH	631	Advanced Analytical Chemistry	3
CJ	660	Forensic Microscopy	4
CJ	661	Mediolegal Investigation and Identification	3
CJ	662	Forensic Toxicology	4
CJ	663	Advanced Forensic Serology	4

Criminal justice electives

CJ	608	Law and Evidence
CJ	610	Administration of Justice
CJ	615	Forensic Science in the Administration of Justice
CJ	628	Introduction to Systems Theory
CJ	637	Contemporary Issues in Criminal Justice
CJ	690	Research Project I
CJ	691	Research Project II
CJ	693	Criminal Justice Internship I
CJ	694	Criminal Justice Internship II
CJ	695	Independent Study

Other electives

Up to nine credits of electives may be chosen from related areas within the graduate curriculum.

Gerontology

Coordinator: Judith B. Gordon, Associate Professor of Sociology, Ph.D., University of Michigan

The gerontology program is designed for both the practicing professional and those interested in the field of gerontology.

Gerontology is an interdisciplinary field. The core curriculum exposes students to the fundamental insights and perspectives of sociology, social welfare, political science, psychology and administration, and aids students to compare and contrast these disciplines. The program is designed to expose students to crucial skills necessary to function effectively as gerontological professionals and to prepare them to pursue leadership roles in the field.

The gerontology program is suitable for government employees, health care professionals and program administrators working in the field of aging, and for those considering such careers now or in the future.

Admission requirements

Prospective students must fulfill the admission requirements of the Graduate School. In addition, they may be required to fulfill additional requirements set by the Committee on Studies in Gerontology.

Requirements for the degree Master of arts in gerontology

Each degree candidate will complete an 18-hour core curriculum, and either the 21-hour concentration in psycho-social studies or the 21-hour concentration in administrative studies. A total of 39 credit hours is required for the degree. The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin. All waivers must be approved in writing by the program coordinator.

Program of study

Required core courses

Course number and title			*Credit*
SO	651	Social Gerontology	3
P	672	Psychology of the Middle and Later Years	3
PA	644	Administration of Programs and Services for the Aged	3
PS	633	The Political Process and the Aged	3
SC	642	Physical Aging	3
SO	652	Seminar in Gerontology	3
			18

Students are expected to take SO 651, Social Gerontology, early in their studies, and SO 652 toward the end of the program.

Concentration in psycho-social relations

SO	641	Death and Suicide	3
SW	651	Social Work with the Elderly I: Individuals, Families and Groups	3
SW	652	Human Services with the Elderly II: Programs, Planning, Policies	3
			9

Three courses such as:

P	623	Psychology of the Group	3
P	625	Advanced Psychology of Human Development	3
P	630	Psychology of Personality	3
P	632	Group Dynamics and Group Treatment	3
P	636	Abnormal Psychology	3
			9
		Electives	3
			21

Students with no prior working experience in gerontology are strongly advised to undertake a field work practicum.

Concentration in administrative studies

P	619	Organizational Behavior	3
PA	604	Seminar in Communities and Social Change	3
PA	641	Financial Management of Health Care Organizations	3
PA	643	Health and Institutional Planning	3
		A Management Science elective, by advisement	3
		Electives, by advisement	6
			21
		Total	39

Students with no prior supervised working experience in gerontology are strongly advised to undertake a field work practicum.

Humanities

Coordinator: David E. E. Sloane, Associate Professor, English, Ph.D., Duke University

The program leading to a master of arts degree in humanities will assist the student to develop an understanding of the range and capacity of social, practical, and artistic creativity; an appreciation of the cultural achievements of our past; and an increased sensitivity to the continuous intertwining of past achievement, present activity and future aspirations – the constituents of any human culture.

The curriculum is interdisciplinary, designed for the adult seeking intellectual challenge. Colloquia are conducted by two faculty members from different academic areas, and are concerned with an historical period or a seminal idea. Seminars are given by a single instructor and are more particular in focus. Independent study enables students to pursue their own interests. All courses are conducted as part of a continuing dialogue between students and faculty, stressing the relevance of our cultural tradition to the problems and issues of contemporary American life.

Although the orientation of the program is toward Western thought, opportunity to pursue threads of investigation into other cultures is available and is encouraged.

Requirements for the degree Master of arts in Humanities

Each student must accumulate 45 hours of credit including the writing of a thesis. Transfer credit will be given where appropriate. The program should include both colloquia and seminars. It must include HU 606, Humanism and Its Methodology.

Industrial Engineering

Coordinator: William S. Gere Jr., Professor of Industrial Engineering, Ph.D., Carnegie-Mellon University

The master of science in industrial engineering is considered a fifth-year or professional degree, and is designed to provide a broad background in operations research, man-machine systems and human factor analysis.

Admission policy

Admission to the program is open to persons holding an undergraduate degree in engineering from a program accredited by the Engineers Council for Professional Development (ECPD). In some cases, an applicant with a degree in a related field may be considered for admission. Applicants with degrees in fields other than industrial engineering will be required to take a number of undergraduate courses or otherwise demonstrate proficiency in several areas normally included in an industrial engineering program.

Though admission decisions are based primarily on an applicant's undergraduate record, the promise of academic success is the essential factor for admission.

Requirements for the degree Master of science in industrial engineering

The basic program consists of 48 credit hours. The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin. Required courses may be waived on the basis of

undergraduate courses taken at accredited institutions. All waivers must be approved in writing by the Department of Industrial Engineering, and are conditional upon subsequent academic performance. In some cases, the program coordinator may permit substitution of relevant courses in place of the required courses.

Seminar project

The program requires all students to complete IE 690, Seminar Project. This requirement is met by the preparation of a relevant seminar project report, prepared under the direction of a faculty adviser. The complete and final manuscript must be submitted to the project adviser prior to the end of the tenth week of the term in which the candidate expects to complete the requirements for the degree. For further specifications see Research Projects, Seminar Projects and Independent Study requirements detailed elsewhere in this bulletin. It is suggested that a student begin work on the seminar project after having completed at least 15 credit hours.

In certain cases, students who routinely complete projects similar to the required Seminar Project as a part of their professional duties may petition to satisfy the Seminar Project requirement by taking two advanced industrial engineering electives in place of the project. Such a substitution must have the prior written approval of the program coordinator.

Program of study

Required courses

Course number and title			*Credit*
IE	601	Introduction to Operations Research / Management Science	3
IE	607	Probability Theory	3
IE	603F	Introduction to Digital Computers (FORTRAN)	3
EC	604	Macroeconomic Analysis, *or*	
EC	603	Microeconomic Analysis	3
IE	651	Human Engineering I	3
IE	624	Quality Analysis	3
EC	625	Industrial Relations	3
P	619	Organizational Behavior, *or*	
P	620	Industrial Psychology	3
IE	690	Seminar Project	3
		Electives (IE or Math Courses)	9
		Electives	12
			48

Industrial Relations

Coordinator: Barbara Taylor, Assistant Professor of Management Science, M.S.B.A., University of Massachusetts

Industrial relations, as a social and behavioral science discipline, is the field of study concerned with all aspects, both macro and micro, of the employment relationship. As an applied organizational and societal function, industrial relations is the profession concerned with the management of the aggregate manpower resources available for, or engaged in, the employment relationship.

As both an academic discipline and a profession, industrial relations is an interdisciplinary problem-solving field which attempts to resolve conflicts among four major parties to the employment relationship – employers, employees, unions and government.

The field of industrial relations has been growing rapidly and is becoming increasingly important for the effective functioning of almost all kinds of organizations. More and more companies and institutions have created activities requiring the services of personnel conversant with the large body of tools and knowledge which has been generated in the field in the past two decades.

The program will aim to present the knowledge and the skill needed to provide employment opportunities in various kinds of organizations in the fields of employee procurement, development, wage and salary administration, employee services and benefits, safety, labor-management relations, job and organization structuring, labor economics, supervision and manpower planning. The program will also establish the foundation for advanced study and research.

The interdisciplinary orientation of the M.S. in industrial relations program is emphasized in the required courses which are drawn from economics, management and psychology. It will be further supported in the program's concentration electives which will be drawn from economics, industrial engineering, management, political science, psychology, public administration and quantitative analysis.

Admission policy

Admission is open to persons holding a baccalaureate degree from an accredited institution of higher education. The undergraduate degree should preferably, but not exclusively, be in the social and behavioral science (i.e., economics, history, political science, psychology, or sociology), business administration or

public administration. Admission is also open to full-time employed professionals in personnel and industrial relations holding a baccalaureate degree in any field from an accredited institution.

Though admission decisions are based primarily on an applicant's undergraduate record, the promise of academic success is the essential factor for admission. Any applicant may be required to complete selected undergraduate courses with a grade of **B** or better as a condition of admission. Before matriculating a student may be required to submit scores from either the Graduate Management Admissions Test (GMAT) or the Graduate Record Examination (GRE). To demonstrate that they have acceptable communication skills, persons may be required to submit a writing sample and to have a personal interview with the industrial relations program coordinator. Finally, applicants are expected to possess personal attributes which will support success in the personnel and industrial relations profession.

Requirements for the degree Master of Science in industrial relations

A minimum total of 39 graduate credit hours is required for the master of science degree in industrial relations. Of these 39 graduate credit hours, 21 graduate credit hours are in approved industrial relations elective courses.

A list of approved industrial relations elective courses is available from the industrial relations program coordinator. Students wishing to take courses not on the list must secure the approval of coordinator before registering for the course.

Candidates for the M.S. in industrial relations must be familiar with the use of statistics in solving problems and decision making. Knowledge of statistics is assumed in the advanced courses in the industrial relations program. For students without this background, this prerequisite may be met by taking a course in probability and statistics as a prerequisite.

Program of study

Required courses

Course number and title		*Credit*
MG 637	Management	3
P 619	Organizational Behavior	3
EC 625	Industrial Relations	3
EC 627	Economics of Labor Relations	3
EC 687	Collective Bargaining	3
MG 678	Personnel Management Seminar	3
MG 679	Industrial Relations Seminar	3
	IR core course credits	21
	IR approved electives	18
	Total credits for degree	39

Legal Studies*

Coordinator: Caroline A. Dinegar, Professor of International Law and Relations, Ph.D., Columbia University

In view of the increasing importance and complexity of law in society and its relevance to non-lawyers, the program is designed to provide expanded knowledge and understanding of the origins and applications of law in the modern world.

The program will explore the theoretical foundations of law and the structural foundations of American and International Law, as well as more specific and technical application affecting modern institutions, corporations, and individuals. In addition, electives will permit concentrations in two major areas of law – Law and the Public Sector and Law and the Industrial Process.

The interdisciplinary program will examine the creation and functioning of law at the global, national and state levels among administrative bodies, regulatory agencies, legislatures, and the courts. Among the issue-areas covered are legislative law-making, lobbying, contracts, torts, occupational health and safety, collective bargaining, taxation, equal employment opportunity, and affirmative action.

*The Board of Higher Education has granted planning approval for this program as of the date of publication of this bulletin. Licensure had not yet been received. It is hoped that licensure will be received in time for applications to be accepted for Fall 1981. Applications for the program cannot be accepted until licensure is received.

Logistics

Coordinator: Robert Brooks, Assistant Professor, Marketing, M.B.A., New York University

The master of science in logistics is designed to provide the degree candidate with a sound specialized knowledge of logistics. The program is based upon the definition of logistics as the science of designing and operating complex systems which acquire, distribute, maintain, recycle and dispose of all types of resources over the lifetime of a product, system or service. Logistics is thus a multidisciplinary field with relevance to high-technology defense industries, nondefense related private enterprise and the transportation industry.

In order to provide flexibility and specialization in terms of various career fields within the scope of logistics, the program was designed with a series of common courses in statistics and operations research, systems theory and simulation, and logistics management and support analysis. These courses provide the background for a concentration which provides specialized training in a particular career field: logistics management, logistics engineering and business logistics.

Admission policy

Admission to the master of science in logistics program is open to persons who hold a undergraduate degree from an accredited institution. An undergraduate grade point average of at least 3.0 (on a 4.0 scale) is required for full matriculation. Students with a grade point average between 2.5 and 3.0 may be considered for provisional acceptance. All applicants must take the Graduate Record Examination as part of the admission procedure. Admission is based on an applicant's undergraduate record and GRE score. However, the promise of academic success is the essential factor for admission. Students will be admitted to the program during the fall and winter trimesters.

Requirements for the degree Master of science in logistics

A total of 48 credits is required of candidates for the M.S. in Logistics degree. Candidates for the M.S. in Logistics program are expected to have a sound background in calculus and matrix

algebra, FORTRAN, microeconomics and management. Students who show deficiences in these areas will be required to take additional coursework in these areas before admission as a degree candidate. Required courses in the core may be waived on the basis of undergraduate courses taken at accredited institutions. All waivers must be approved in writing by the program coordinator and are conditional upon subsequent academic performance.

Seminar project

The program requires all students to complete LG 690, Seminar Project. This requirement is met by the preparation of a relevant seminar project report under the direction of a faculty adviser. The complete and final manuscript must be submitted to the project adviser prior to the end of the tenth week of the term in which the candidate expects to complete the requirements for the degree. For further specifications see *Research Project, Seminar Projects and Independent Study* requirements detailed elsewhere in this bulletin. It is suggested that a student begin work on the seminar project after having completed at least 15 credit hours.

In certain cases, students who routinely complete projects similar to the required Seminar Project as part of their professional duties may petition to satisfy the Seminar Project requirement by taking advanced electives in place of the project. Such a substitution must have the prior written approval of the program coordinator.

Program of study

Required courses

Course number and title		*Credit*
QA 605	Advanced Statistics	3
IE 601	Introduction to Operations Research/ Management Science	3
QA 606	Advanced Management Science	3
QA 607	Forecasting	3
IE 604	Management Systems	3
IE 681	Systems Simulation	3
IE 686	Inventory Analysis	3
LG 660	Logistics Technology and Management	3
LG 665	Integrated Logistics Support Analysis	3
		27

Concentration in logistics management

LG 669	Life Cycle Cost Analysis	3
MG 638	Cost-Benefit Management	3
MG 635	Purchasing and Material Management	3
MG 641	Contract Administration	3
LG 690	Seminar Project	3
	Restricted Electives	6
		21

Concentration in logistics engineering

LG 669	Life Cycle Cost Analysis	3
IE 643	Reliability and Maintainability	3
IE 624	Quality Analysis	3
IE 655	Value Engineering	3
LG 690	Seminar Project	3
	Restricted Electives	6
		21

Concentration in business logistics

MG 625	Systems Techniques in Business Administration	3
MG 635	Purchasing and Material Management	3
MK 645	Distribution Strategy	3
IE 615	Transportation and Distribution	3
LG 690	Seminar Project	3
	Restricted Electives	6
		21

Mechanical Engineering

Coordinator: Richard J. Greet, Professor of Mechanical Engineering, Ph.D., Harvard University

This program is intended to meet the needs of professionally employed engineers and scientists for academic work beyond the baccalaureate level. It has been designed to increase competence in modern analysis and synthesis techniques as they apply to engineering design.

The program centers on a core sequence which all students are expected to take. The core courses contain advanced methods of analysis and design which are of common interest in engineering work. Students complete the program by electing a series of

courses in mechanical engineering which is particularly suited to their current professional interests. Early in the program, students, with the approval of their advisers, prepare a detailed plan insuring an overall educational experience that is integrated and logical.

All decisions regarding both core and elective requirements are subject to final approval of the student's adviser.

Requirements for the degree Master of science in mechanical engineering

A minimum of 39 credits must be completed to earn the master of science degree in mechanical engineering. The transfer credit from other institutions will be permitted subject to the Graduate School policy on transfer credit. Thesis topics should be approved by the faculty adviser when the student has completed 18-21 graduate credits. Thesis preparation and submission must comply with Graduate School policy on Thesis with the final manuscript submitted to the adviser prior to the end of the tenth week of the term in which the candidate expects to complete the requirements for the degree.

Program of study

Required courses

Course number and title		*Credit*
M 624	Applied Mathematics	3
ME 602	Boundary Value Problems	3
ME 603	Approximation Methods	3
ME 604	Numerical Methods, *or*	
M 620	Numerical Analysis	3
ME 615	Theory of Elasticity	3
ME 625	Mechanics of Continua	3
ME 630	Advanced Fluid Mechanics	3
ME 698-699	Thesis	6
	Electives	12
		39

Elective courses

Course number and title		*Credit*
ME 610	Advanced Dynamics	3
ME 611	System Vibrations	3
ME 620	Classical Thermodynamics	3
ME 622	Statistical Mechanics	3
ME 628	Modern Materials	3
ME 632	Advanced Heat Transfer	3
ME 645	Computational Fluid Dynamics and Heat Transfer	3
ME 670	Special Topics – Mechanical Engineering	3
ME 695	Independent Study I	3
ME 696	Independent Study II	3

Occupational Safety and Health Management*

Coordinator: Abdul Qazi, Associate Professor of Environmental Studies, Ph.D., Environmental Health and Industrial Hygiene, University of Oklahoma

The master in science in occupational safety and health (OSH) management is designed to provide the core technical knowledge in the OSH field and the managerial skills to administrate a safety and health program, particularly at the corporate level.

The program is designed to accommodate both the active practitioner in the OSH field as well as the novice who aspires to a career in this dynamic occupation. This flexibility is provided through a program sequence of 33 s.h. of core courses and 12 s.h. of elective concentrations offered in either a science/engineering track or a management track.

*The Board of Higher Education has granted planning approval for this program as of the date of publication of this bulletin. Licensure has not yet been received. It is hoped that licensure will be received in time for applications to be accepted for Fall 1981. Applications for the program cannot be accepted until licensure is received, and the requirements listed above may change.

Admissions policy

Admission to the master of science in occupational safety and health management program is open to persons who hold a baccalaureate degree from an accredited institution. An undergraduate grade point average of at least 2.5 on a 4.0 scale is required for provisional acceptance, 3.0 for full matriculation. Undergraduate courses in General Chemistry, General Physics, Biology, Statistics, Psychology, and Accounting are required. The degree candidate may be required to submit scores from the Graduate Record Examination. Students who do not meet all requirements will be evaluated on an individual basis.

Requirements for the degree Master of science in occupational safety and health management

Candidates are required to complete 45 credit hours of graduate work. Transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit noted elsewhere in this bulletin. Consideration for waiver of core courses on the basis of undergraduate experience is at the discretion of the program coordinator.

Program of study (Tentative: see footnote page 69)

Required core courses

Course number and title			*Credit*
SH	602	Safety Organization and Administration	3
SH	605	Industrial Safety Engineering	3
SH	608	Industrial Hygiene Practices	3
SH	620	Occupational Safety and Health Law	3
SH	630	Product Safety and Liability	3
MG	637	Management	3
A	621	Managerial Accounting	3
QA	604	Probability and Statistics	3
EC	625	Industrial Relations	3
P	619	Organizational Behavior	3
IE	651	Human Engineering I	3
			33

Elective concentrations

The student has the option of choosing 4 courses from one of two tracks. It is recommended that he choose the track from that area with which he is least familiar.

A. Track I: Science/Engineering

SC	601	Ecology for Environmental Engineers	3
SC	603	Air Pollution	3
SC	610	Environmental Health	3
CH	601	Environmental Chemistry	3
SH	650	Seminar Contemporary Issues	3
SH	651	Fire Prevention Law	3
SH	652	High Rise Fire Problems	3
PH	630	Health Physics	3

B. Track II: Management

IE	612	Managerial Interactions I	3
P	640	Industrial Motivation and Morale	3
MG	664	Organizational Effectiveness	3
MG	645	Management of Human Resources	3
MG	678	Personnel Management Seminar	3
SH	650	Seminar Contemporary Issues	3
			12
			45

Operations Research

Coordinator: William S. Gere Jr., Professor of Industrial Engineering, Ph.D., Carnegie-Mellon University

The master of science in operations research curriculum provides thorough coverage of the theory, methodology and application of the techniques of operations research and systems analysis. The program is designed to prepare qualified applicants from diverse backgrounds to deal with major social, industrial and business problems.

Requirements for the degree Master of science in operations research

The basic program consists of 48 credit hours. The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin. Required courses may be waived on the basis of undergraduate courses taken at accredited institutions. All waivers must be approved in writing by the Department of Industrial Engineering, and are contingent upon subsequent academic performance. In some cases, the coordinator may permit substitution of relevant courses in place of the required courses.

Seminar project

The Master of Science in operations research program requires all students to complete IE 690, Seminar Project. This requirement is met by the preparation of a relevant seminar project report, prepared under the direction of a faculty adviser. The complete and final manuscript must be submitted to the project adviser prior to the end of the tenth week of the term in which the candidate expects to complete the requirements for his degree. For further specification see Research Projects, Seminar Projects and Independent Study requirements detailed elsewhere in this bulletin. It is suggested that a student begin work on the seminar project after having completed at least 15 credit hours.

In certain cases, students who routinely complete projects similar to the required Seminar Project as a part of their professional duties may petition to satisfy the Seminar Project requirement by taking two advanced industrial engineering electives in place of the project. Such a substitution must have the prior written approval of the program coordinator.

Program of study

Requires courses

Course number and title			*Credit*
IE	601	Introduction to Operations Research/ Management Science	3
IE	603F	Introduction to Digital Computers (FORTRAN)	3
IE	607	Probability Theory	3
M	610	Fundamentals of Calculus and Linear Algebra	3
EC	604	Macroeconomic Analysis, *or*	
EC	603	Microeconomic Analysis	3
IE	621	Linear Programming	3
IE	622	Queuing Theory	3
IE	685	Theory of Optimization	3
IE	686	Inventory Analysis	3
IE	688	Design of Experiments	3
IE	690	Seminar Project	3
		Electives (I.E., Math, or E.E.)	6
		Electives	9
			48

Organizational/Industrial Psychology

Acting Coordinator: Benjamin Weybrew, Assistant Professor of Psychology, Ph.D., University of Colorado.

The master of arts in organizational/industrial psychology is designed as an interdisciplinary program leading to the development of expertise in the application of psychology for men and women involved in supervisory roles and for those planning such professional careers. The program emphasizes both the principles and procedures of psychology and the perspectives of other disciplines in preparing the student to meet organizational problems in their full complexity. Approximately two dozen top industrialists have agreed to assist the department in the continuing development of the program.

The program further strives to:

1. familiarize the student with contemporary research and publications concerned with mutual relationships between organizational characteristics and the employee's behavior;
2. provide the student with an improved understanding of psychological findings relating to personnel counseling, test administration and interpretation for selection, transfer, and promotion as well as management development;
3. enhance the student's knowledge of current psychological information and skills relating to human-need satisfaction, executive training, organizational climate, problem solving and decision making, effective organizational change, and the study of organizationally induced stress;
4. familiarize the student with current psychological theory and findings relating to attitude measurement, personnel policy evaluation and development and management development programs;
5. meet the increasing needs of organizations for individuals with specialized research and human relations skills; and
6. provide graduate study on a late afternoon and early evening basis for the full-time employee.

Admission policy

Applicants are expected to possess social and interpersonal characteristics which will support success in organizational settings.

Students who give evidence of a mature interest in the application of psychological principles to organizational problems and who hold an undergraduate degree from an accredited college or university are eligible for admission.

Applicants are required to complete a questionnaire and submit it directly to the Graduate School and may be required to submit scores from either the Miller Analogies Test or the Graduate Record Examination Aptitude Test. An undergraduate major in psychology is not specifically required as a basis for consideration. However, all students are expected to have at least an introductory level understanding of psychological concepts, principles, and methods before taking courses in the master of arts in organizational/industrial psychology program.

Requirements for the degree Master of arts in organizational/industrial psychology

A total of 39 credit hours is required of candidates for the degree of master of arts in organizational/industrial psychology. Candidates for this degree will be required to complete 18 credit hours of required courses in the core curriculum. Another 21 credit hours of electives will be chosen after consultation with the department chairman, or a representative, in light of the student's academic and professional goals. Students may not complete more than 9 credit hours of electives until they have satisfied the core requirements. Up to 9 credit hours of electives may be taken in other departments, such as industrial engineering, economics, management, marketing, public administration or criminal justice.

Transfer credit

The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer of credit detailed elsewhere in this bulletin.

Thesis

Students electing to write a thesis must register for P 698, Thesis I, and P 699, Thesis II. The thesis must show ability to organize materials in a clear and original manner and present well-reasoned conclusions.

The thesis is written under the direction of the faculty member in charge of the thesis seminar or a faculty member with special competence in the subject matter of the thesis. The complete and final manuscript must be submitted to the thesis adviser prior to the end of the tenth week of the term in which the candidate expects to complete the requirements for the degree. Thesis preparation and submission must comply with the Graduate School policy on Thesis/Seminar Project Requirements detailed elsewhere in this bulletin.

Program options

In response to the different needs and levels of preparation of students in the program, the four following options are available:

Option 1 is recommended for an individual currently employed in a managerial or supervisory position. The practicum seminars will allow the student to investigate a specific job-related problem under expert faculty supervision.

Option 2 affords the student with limited work experience an opportunity to serve an industrial internship, providing the student the chance to observe real organizational/industrial situations to be analyzed and discussed with a faculty supervisor.

Option 3 will provide the student planning to pursue doctoral studies with an essential tool – the ability to do empirical research and report writing through the preparation of a thesis.

Option 4 consists of elective courses selected under faculty advisement. The choice of electives is intended to provide the student with a broad interdisciplinary background, complementing the student's own academic training and interest.

Normally the student should not begin work on any of the first three options until he/she has completed at least four core courses.

Program of study

Required courses

Course number and title			*Credit*
EC	625	Industrial Relations	3
P	609	Research Methods	3
P	619	Organizational Behavior	3
P	635	Assessment of Human Performance with Standardized Tests	3
P	640	Industrial Motivation and Morale	3
P	645	Seminar in Organizational/Industrial Psychology	3
		Elective options (see below)*	21
			39

Elective options

Option 1

P	678	Practicum I	3
P	679	Practicum II	3
		Electives*	15
			21

Option 2

P	693	Organizational Internship I	3
P	694	Organizational Internship II	3
		Electives*	15
			21

Option 3

P	698	Thesis I	3
P	699	Thesis II	3
		Electives*	15
			21

Option 4

		Electives*	21

*The choice of electives is made in consultation with a departmental adviser in light of the student's academic and professional goals.

Public Administration

Coordinator: Kenneth Fox, Assistant Professor of Public Administration, Ph.D., University of Pennsylvania

The general purpose of the master of public administration degree at the University of New Haven is the training of men and women at the graduate level for public service careers. Specifically, the program strives to:

1. equip students with modern analytical and quantitative tools of decision making and their application to complex problems of government;
2. expose students to the wide range of administrative and managerial problems and responsibilities of government; and
3. increase the student's knowledge and skills in the particular management functions of budgeting, planning, public policy formulation, public finance and public personnel administration.

Requirements for the degree Master of public administration

Forty-five graduate credit hours are required of candidates for this degree. Of the 15 credit hours of electives in the M.P.A. program, six credit hours may be taken in graduate courses offered in other programs such as psychology, criminal justice, economics, and industrial engineering.

Program of study

Required courses

Course number and title		*Credit*
PA 601	Principles of Public Administration	3
PA 602	Public Policy Formulation and Implementation	3
PA 604	Seminar in Communities and Social Change	3
EC 608	Economics for Public Administrators	3
PA 611	Research Methods in Public Administration	3
PA 620	Personnel Administration and Collective Bargaining in the Public Sector	3
PA 625	Administrative Behavior	3
PA 632	Public Finance and Budgeting	3
PA 690	Research Project	3
PA 693	Public Administration Internship	3
	Electives	15
		45

Concentrations

Concentrations in the master of public administration program are designed to provide career-oriented structure for students with well-formed career interests. The concentration in health care management is the first concentration introduced into the program. The department expects to develop additional concentrations over the next several years.

Health care management

Adviser: Kenneth Fox, Assistant Professor of Public Administration, Ph.D., University of Pennsylvania

Students following the health care concentration will take the core curriculum of ten courses and follow the health care concentration of five courses for their five elective courses.

PS 635	Law and Public Health
MG 640	Management of Health Care Organizations
PA 641	Financial Management of Health Care Organizations
PA 643	Health and Institutional Planning
	and one course chosen from among the following:
PA 642	Health Care Delivery Systems
PA 644	Administration of Programs and Services for the Aged
PA 645	Health Care Economics and Finance

Senior Professional Certificates

This program is limited to those already holding an advanced degree who want additional graduate study in a coherent program, but do not want to work toward another advanced degree.

Since the senior professional certificate is not a degree, a student may transfer credits earned for a certificate into a master's program at any time, subject to the requirements of the master's degree and the decision of the coordinator of the master's program, and to acceptance in the master's program.

Students completing work in a certificate program do not attend commencement but will receive a certificate. A petition for certification must be filed with the graduate registrar and the appropriate fee paid. When the course work is reviewed and found complete the certificate will be mailed to the student.

Requirements for the certificate

The program consists of 15 or 18 credits, depending upon the area chosen. Students, having chosen their area of study, should contact the adviser who is listed for that particular area.

Programs of study

Twelve different certificates are offered. Three certificate programs allow options to choose a particular speciality. The programs are the following:

Accounting and Taxation
- I: Financial Accounting
- II: Managerial Accounting
- III: Accounting Information Systems
- IV: Taxation of Individuals
- V: Taxation of Corporations
- VI: Finance

Applications of Psychology
Computer Applications and Information Systems
Economic Forecasting
Finance
General Management
Human Resources Management
International Business

Marketing
- I: Marketing
- II: Quantitative Techniques in Marketing

Media for Business
Public Management
- I: Survey of the Field
- II: Urban and Regional Planning and Management
- III: Public Personnel Management

Quantitative Analysis

Accounting and Taxation

Adviser: Anne J. Rich, Associate Professor of Accounting, C.P.A., C.M.A., Ph.D., University of Massachusetts

Option I: Financial Accounting*

Any five from the following:

A	650	Advanced Accounting Theory	3
A	651	Financial Account Seminar	3
A	652	Advanced Auditing	3
A	653	Accounting for Not-for-Profit Organization	3
A	654	Financial Statements: Reporting and Analysis	3
A	656	International Accounting	3
			15

Option II: Managerial Accounting*

Any five from the following:

A	621	Managerial Accounting	3
A	641	Accounting Information Systems	3
A	642	Operational Auditing	3
A	661	Managerial Accounting Seminar	3
FI	615	Finance	3
FI	645	Corporate Financial Theory	3
FI	651	Portfolio Management and Capital Market Analysis	3
			15

Option III: Accounting Information Systems*

A	641	Accounting Information Systems	3
A	642	Operational Auditing	3
A	652	Advanced Auditing	3
		and any two accounting systems or computer science courses	9

Option IV: Taxation of Individuals*

A	601	Federal Income Taxation I	3
A	602	Federal Income Taxation II	3
A	603	Federal Income Taxation III	3
A	608	Estate and Gift Taxation	3
		and one taxation elective	12

Option V: Taxation of Corporations*

A	604	Corporate Income Taxation I	3
A	605	Corporate Income Taxation II	3
A	606	Corporate Income Taxation III	3
A	610	Consolidated Returns	3
		and one taxation elective	12

*Other courses may be substituted by consent of the coordinator of the program.

Option VI: (see "Finance" below)

Applications of Psychology

Adviser: Thomas Mentzer, Acting Chairman, Associate Professor of Psychology, Ph.D., Brown University

Students are expected to plan a sequence of courses with the faculty adviser at the start of the program. Five courses will be selected depending upon a student's interests, career objectives and academic preparation; courses are usually limited to the following:

P	610	Program Evaluation in Community Psychology	3
P	621	Behavior Modification	3
P	623	Psychology of the Small Group	3
P	627	Attitude and Opinion Measurement	3
P	628	The Interview	3
P	629	Introduction to Counseling	3
P	630	Psychology of Personality	3
P	631	Social Psychology	3
P	632	Group Dynamics and Group Treatment	3
P	633	Problems of Drug Abuse	3
P	636	Abnormal Psychology	3
P	638	Psychology of Communication and Opinion Change	3
P	641	Personnel Development and Training	3
P	642	Organizational Change and Development	3
P	650	Ecological Psychology	3
		Total of	15

Computer Applications and Information Systems

Adviser: William S. Gere Jr., Professor of Industrial Engineering, Ph.D., Carnegie-Mellon University

IE	604	Management Systems	3
IE	605	Advanced Business Programming	3
IE	610	Computer Systems Selection	3
IE	614	Data Information Systems	3
IE	684	Multiprogramming Systems	3
			15

Economic Forecasting

Adviser: John Teluk, Professor of Economics, M.A., Free University, Munich

EC	604	Macroeconomic Analysis	3
EC	635	Comparative Economic Systems	3
EC	645	Seminar in Macroeconomic Policy	3
EC	653	Econometrics	3
QA	607	Forecasting	3
			15

Finance

Adviser: Anne J. Rich

Option VI: Finance*

any five from the following:

FI	615	Finance	3
FI	617	Financial Institutions and Capital Markets	3
FI	619	Monetary and Central Banking Policy	3
FI	620	Working Capital Management and Planning	3
FI	645	Corporate Financial Theory	3
FI	649	Security Analysis	3
FI	651	Portfolio Theory and Capital Market	3
			15

*Other courses may be substituted by consent of the coordinator of the program.

General Management

Adviser: Gene F. Brady, Associate Professor of Management Science, Ph.D., University of Oregon

any six from the following:

MG 660	Comparative Management	3
MG 661	Development of Management Thought	3
MG 662	Organization Theory	3
MG 663	Leadership in Organizations	3
MG 664	Organizational Effectiveness	3
MG 669	Business Policy and Strategy	3
MG 680	Current Topics in Business Administration	3
MG 675	Readings in Management	3

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Human Resources Management

Adviser: Gene F. Brady

The following four courses:

MG 645	Management of Human Resources
MG 665	Compensation Administration
MG 678	Personnel Management Seminar
MG 679	Industrial Relations Seminar

Plus any two from the following:

MG 690/PA 690-1	Research in Human Resources Management
MG 695-6/PA 695-6	Independent Study: Human Resources Management
P 627	Attitude and Opinion Measurement
P 628	The Interview
P 641	Personnel Development and Training
PA 620	Personnel Administration and Collective Bargaining in the Public Sector
EC 625	Industrial Relations
EC 627	Economics of Labor Relations
EC 687	Collective Bargaining

Media for Business

Adviser: M. L. McLaughlin, Professor of Communication, Ph.D., University of Wisconsin

CO 601	Basics of Business Media Production	3
CO 605	Planning Audio Visual Systems for Business	3
CO 609	Scripting the Media Presentation	3
CO 613	Media Presentations for Business	3
CO 621	The Communication Process	3

15

International Business

Adviser: Arvin F. Rodrigues, Assistant Professor of Marketing, Ph.D., Columbia University

IB	643	International Business Operations	3
		and any four from the following	
EC	620	Economic History of Western Europe	3
EC	660	Economic Development of Japan	3
IB	644	Import and Export Business	3
IB	645	Structure of World Markets	3
IB	651	Comparative Marketing	3
IB	652	Multinational Business Operations	3
MG	660	Comparative Management	3
PS	603	International Law	3
			15

Marketing

Adviser: Arvin F. Rodrigues

Option I: Marketing

MK	609	Marketing	3
		and any four from the following:	
IB	643	International Business Operations	3
IB	644	Import and Export Business	3
IB	651	Comparative Marketing	3
MK	616	Buyer Behavior	3
MK	639	Marketing Research and Information Systems	3
MK	641	Marketing Management	3
MK	643	Product Management	3
MK	644	Consumerism	3
MK	645	Distribution Strategy	3
MK	680	Marketing Workshop	3
			15

Option II: Quantitative Techniques in Marketing

IE	603F	Introduction to Digital Computers: FORTRAN	3
QA	604	Probability & Statistics	3
		and any three from the following:	
IE	615	Transportation and Distribution	3
MK	639	Marketing Research and Information Systems	3
MK	641	Marketing Management	3
QA	607	Forecasting	3
			15

Public Management

Adviser: Kenneth Fox; Assistant Professor of Public Administration; Ph.D., University of Pennsylvania

Option I: Survey of the Field

any five from the following:

EC	665	Urban and Regional Economic Development	3
PS	608	The Legislative Process	3
PA	611	Research Methods in Public Administration	3
PA	620	Personnel Administration and Collective Bargaining in the Public Sector	3
PA	625	Administrative Behavior	3
PA	630	Governmental Accounting	3
PA	632	Public Finance and Budgeting	3
PA	660	Urban Planning: Theory and Practice	3
PA	662	Environmental Design	3
			15

Option II: Urban and Regional Planning and Management

And five from the following:

EC	665	Urban and Regional Economic Development	3
PA	630	Governmental Accounting	3
PA	634	Problems of Municipal Management	3
PA	660	Urban Planning: Theory and Practice	3
PA	661	Problems of Metropolitan Areas	3
PA	662	Environmental Design	3
PS	616	Urban Government and Politics	3
			15

Option III: Public Personnel Management

EC	625	Industrial Relations	3
EC	691	Labor Legislation	3
PA	620	Personnel Administration and Collective Bargaining in the Public Sector	3
PA	625	Administrative Behavior	3

and one from the following:

P	627	Attitude and Opinion Measurement	3
P	635	Assessment of Human Performance with Standardized Tests	3
			15

Quantitative Analysis

Adviser: John Moore, Assistant Professor of Management Science, Ph.D., Southern Illinois University

IE 604	Management Systems	3
QA 604	Probability and Statistics	3
QA 605	Advanced Statistics	3
QA 606	Advanced Management Science	3
QA 607	Forecasting	3
		15

Taxation

Coordinator: Martin H. Zern, Associate Professor of Accounting, C.P.A., J.D., LL.M., New York University

Society's decision to pursue collectively, through the instrument of governmental policy, a variety of economic and social goals has led to the development of a complex body of "tax law." Given the dynamic state of society's economic and social goals, and the alternative means for their accomplishment, the body of "tax law" characteristically exists in a continual state of change.

The complex and dynamic structure of "tax law" is significant not only because of its impact upon the process of accomplishing society's goals but also because of its influence upon the economic decision-making process in which society's members are constantly engaged. The tax consequences at the applicable governmental level – federal, state, and local – of economic decisions made by society's members have been and will continue to be an increasingly important consideration.

Program objectives

In recognition of the above, a need to prepare technically competent individuals for careers in the field of taxation has developed. Owing to the complex and dynamic nature of "tax law," it appears appropriate to conduct this preparation at an advanced level of inquiry with an emphasis upon examining the

issues of current interest in taxation. Accordingly, the master of science program in taxation has been designed as a framework to accomplish the following structure of objectives:

1. To apprise the students of the role of "tax law" relative to social and economic policy.
2. To prepare students with approaches relative to the integration of "tax law" with the economic decision-making process.
3. To prepare the students for technical competence relative to understanding and interpreting "tax law."
4. To prepare students with approaches to independent research in taxation.
5. To familiarize students with Internal Revenue procedures.

Given the above objectives, the master of science program in taxation provides a framework through which advanced and timely tax training can be acquired by experienced professionals (accountants and attorneys) practicing in the field of taxation, as well as individuals seeking to prepare themselves for entry into career positions in taxation.

Admission policy

Admission to matriculation in the program is available to CPA's, attorneys, and persons holding an undergraduate degree from an accredited institution, preferably, but not exclusively, in accounting or in business administration with a major in accounting. Persons holding other than the above degrees will be required to take a number of selected undergraduate courses as a condition for admission. Admission is based primarily on an applicant's undergraduate record; however, the promise of academic success is the essential factor for admission. In support of their application, persons may submit their scores from the Graduate Management Admissions Test (GMAT). An applicant may be required to take this test.

Requirements for the degree Master of science in taxation

A minimum total of 36 credits is required for the master of science in taxation. The 36 credits will include 24 credits from required core courses and 12 credits from electives. The transfer of credit from other institutions will be permitted subject to the Graduate School policy on transfer credit detailed elsewhere in this bulletin.

Program of study

Required courses

Course number and title			*Credit*
A	601	Federal Income Taxation I	3
A	602	Federal Income Taxation II	3
A	604	Corporate Income Taxation I	3
A	605	Corporate Income Taxation II	3
A	607	Tax Accounting	3
A	608	Estate and Gift Taxation	3
A	614	Federal Tax Practice and Procedure	3
A	615	Research Project in Federal Income Taxation	3
			24

Elective courses

A	603	Federal Income Taxation III	3
A	606	Corporate Income Taxation III	3
A	609	State and Local Taxation	3
A	610	Consolidated Returns	3
A	611	Income Taxation of Estates and Trusts	3
A	612	International Taxation	3
A	613	Taxation of Partnerships and Partners	3
		Four electives totaling	12
		Total for degree	36

A computer center employee demonstrates the latest computer technology, including a screen with three-dimensional rotational graphics capabilities.

Course Descriptions

Accounting (A) 92
Civil and Environmental Engineering (CE) 95
Chemistry (CH) 97
Criminal Justice (CJ) 98
Communication (CO) 102
English (E) 104
Economics (EC) 104
Electrical Engineering (EE) 107
Executive M.B.A. (EXID) 109
Finance (FI) 111
Hospitality Administration (HM) 113
Humanities (HU) 114
International Business (IB) 116
Industrial Engineering (IE) 117
Business Law (LA) 122
Logistics Management (LG) 123
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Occupational Safety and Health Management (SH) 146
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Course Descriptions

Unless otherwise indicated, all graduate courses carry three credit hours.

Department of Accounting

A 600 Accounting No Credit

The principles and procedures underlying the generation of financial accounting information.

A 601 Federal Income Taxation I

A study of tax policy and the basic principles of the federal income tax law taught at an advanced level of inquiry. Coverage entails the key concepts of gross income, adjusted gross income, deductions, exemptions credits, and special tax computations, with special attention given to the provisions of the Internal Revenue Code affecting individual taxpayers.

A 602 Federal Income Taxation II

Prerequisite: A 601. A continuation of Federal Income Taxation I emphasizing the basic provisions concerning dispositions of property: analysis of basis, recognition of gain or loss, capital asset transactions and nonrecognition exchanges. Coverage extended to assignment of income theories, tax minimization and deferred payment sales.

A 603 Federal Income Taxation III

Prerequisite: A 602, or permission of the instructor. The taxation of deferred compensation, with particular emphasis on employee benefit plans. Primary focus is on qualified retirement plans and the impact of the Employee Retirement Income Security Act of 1974. Nonqualified plans, executive compensation, individual retirement accounts, Keogh plans and insurance plans are also included.

A 604 Corporate Income Taxation I

Prerequisite: A 602. A foundation course analyzing the basic federal income tax provisions affecting corporations and shareholders. Course coverage includes organization of the corporation, corporate capital structure, corporate distributions, stock redemptions, bail-out techniques and liquidations.

A 605 Corporate Income Taxation II

Prerequisite: A 604. A detailed analysis of the federal income tax rules covering corporate reorganizations and divisions. Also discussed are some of the nontax aspects of corporate reorganizations such as S.E.C., anti-trust, and business reasons for choice of particular method.

A 606 Corporate Income Taxation III

Prerequisite: A 605. Advanced study in the corporate tax area including subchapter S corporations, collapsible corporations, accumulated earnings tax, affiliated corporations and carryover of corporate tax attributes.

A 607 Tax Accounting

Prerequisite: A 601. Investigation of such areas as: problems of allocating income and deductions to the proper tax year, permissible tax accounting methods, depreciation, inventory methods, net operating losses, installment reporting, change in accounting method and comparison of business and tax accounting principles.

A 608 Estate and Gift Taxation

A comprehensive introduction to, and analysis of, the federal estate and gift tax laws including basic principles of estate planning. Procedures for preparation of the estate and gift tax returns are treated. Brief coverage is also given to state death and inheritance taxes.

A 609 State and Local Taxation

The tax problems encountered at the state and local level by businesses engaged in interstate commerce. Federal limitations on the taxation of multistate enterprises and jurisdictional problems are examined. Specific areas covered are: license to do business, net income, franchise, gross receipts, property, and sales and use taxes. Apportionment problems are examined in detail.

A 610 Consolidated Returns

Prerequisite: A 604. A thorough analysis of the federal consolidated tax return provisions including eligibility and whether to file a consolidated return; intercompany transactions and deferral concepts; basis in the disposition of stock of a subsidiary; computation of earnings and profits; and mechanics of preparing the consolidated return.

A 611 Income Taxation of Estates and Trusts

Prerequisite: A 602. Federal income taxation of estates, trusts, grantors, and beneficiaries. Topics are simple and complex trusts, throwback rules, taxable and distributable net income, assignment of income concepts and income in respect of a decedent, preparation of the estate and trust returns.

A 612 International Taxation

Prerequisite: A 604. Consideration of the federal income tax treatment of nonresident aliens and foreign corporations and the foreign income of U.S. residents and domestic corporations; comparison of alternative methods of engaging in operations abroad; foreign tax credit; allocations under code Section 482; Section 367 rulings; and the effect of tax treaties.

A 613 Taxation of Partnerships and Partners

Prerequisite: A 602. A study of the federal income tax problems encountered in the formation and operation of a partnership, including computations of taxable income, sale of a partnership interest, withdrawal of a partner, death or retirement of a partner, and distribution of partnership assets. Limited partnerships are also covered. Procedure for preparation of the partnership return.

A 614 Federal Tax Practice and Procedure

Prerequisite: A 601. A study of the history and organization of the Internal Revenue Service, the selection of returns for audit and the review steps at the administrative level. Code provisions covered will include: filing requirements, statutory notices, restriction on assessment, statute of limitations, refund procedures, waivers, closing agreements, protests and rulings.

A 615 Research Project in Federal Income Taxation

Prerequisite: 15 graduate hours in taxation. This course is devoted to a study of the techniques and tools of tax research. Reference sources include tax looseleaf services, I.R.S. Cumulative Bulletins, court cases, Congressional committee reports, textbooks, published articles. A significant research paper devoted to a subject of topical interest is required.

A 621 Managerial Accounting

Prerequisite: A 600 or 6 credits in financial accounting. Accounting analysis for the managerial functions of planning, controlling and evaluating the performance of the business firm.

A 641 Accounting Information Systems

Prerequisite: A 621. An examination of the function and limitations of internal accounting information systems and their relationship to other decision-oriented business information systems.

A 642 Operational Auditing

Prerequisite: A 621. An analysis of the principles underlying and the procedures applying the function of auditing the results of firm-related business decisions.

A 650 Advanced Accounting Theory

Prerequisite: 6 hrs. of intermediate accounting. Considers the theoretical aspects of accepted accounting principles and their significance as a frame of reference for the evaluation of accounting practices. Considerable attention is focused on the role of regulatory agencies and professional accounting organizations with regard to their influences upon accounting theory and practice.

A 651 Financial Accounting Seminar

Prerequisite: A 650. An examination and evaluation of current literature in external accounting issues and related fields.

A 652 Advanced Auditing

Prerequisite: 3 hours of auditing. An analysis of the contemporary problems surrounding the attest function performed by the professional independent auditor. EDP auditing is examined in depth.

A 653 Accounting for the Not-for-Profit Organization

Prerequisite: 6 hrs. of intermediate accounting. An intensive examination of the contemporary views toward financial reporting for the not-for-profit organizations.

A 654 Financial Statements: Reporting and Analysis

Prerequisite: FI 651. An examination of financial reporting practices for financial statement analyses in view of modern theoretical and empirical financial decision-making research.

A 656 International Accounting

Prerequisite: 6 hrs. of intermediate accounting. An analysis of the literature related to the current and growing interest in the development of accounting standards for business enterprises throughout the world.

A 661 Managerial Accounting Seminar

Prerequisite: A 621. An examination and evaluation of current literature in internal accounting issues and related fields.

A 670 Selected Topics

A study of selected issues of particular interest to the students and instructor. May be taken more than once.

A 690 Research Project

Prerequisite: 15 graduate hours or permission of the instructor. Independent study under the supervision of an adviser.

A 695 Independent Study I

A planned program of individual study under the supervision of a member of the faculty.

A 696 Independent Study II

A continuation of Independent Study I.

A 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

A 699 Thesis II

A continuation of Thesis I.

Department of Civil and Environmental Engineering

CE 601 Water Treatment

Advanced design principles and practices in water treatment processes; study of unit processes and operations; water treatment plant design; methods of population projection; water distribution systems.

CE 602 Wastewater Treatment

Advanced design principles and practices in sewage treatment processes; study of unit processes and operations; secondary sewage treatment plant design; sludge handling and disposal; sewage collection systems; introduction to advanced treatment methods.

CE 605 Solid Waste Management

Characteristics, volumes, collection and disposal of solid waste and refuse. Design of processing, recycling, and recovery equipment, landfill design and operation, resource recovery, incineration.

CE 606 Environmental Law and Legislation

Review and techniques of enforcement of state and federal pollution control laws and regulations; effects on waste treatment criteria and design and evaluation of municipal ordinances; preparation of environmental assessments and impact statements.

CE 612 Advanced Wastewater Treatment

Prerequisite: CH 601, which may be taken concurrently. Theories and principles of advanced sewage treatment including nutrient removal, demineralization, distillation, ozonation, carbon filtration, ion exchange, nitrification; design of facilities; upgrading secondary plants.

CE 613 Industrial Wastewater Control

Prerequisite: CH 601. Characteristics of industrial wastes, volumes, sources, types; methods of volume reduction, waste segregation, recovery, recycle, and waste treatment.

CE 616 Ground Water Waste Disposal

Study of effects of disposal of wastewaters in ground waters; travel of pollutants through soil; removal of nutrients and pollutants by soil interactions; leachate identification and control from refuse disposal areas.

CE 670 Special Topics–Civil Engineering

A study of related topics of particular interest to students and instructor. Course may be taken more than once.

CE 690 Research Project

Prerequisite: 18 graduate hours or permission of chairman of the Department of Civil Engineering and adviser. Independent study under the guidance of an adviser into an area of mutual interest, each study terminating in a technical report of academic merit. Research may be in such environmental areas as water resources, stream pollution, solid waste management or air pollution.

CE 695 Independent Study in Environmental Engineering I

Prerequisite: permission of program coordinator. Independent study under the guidance of an adviser into an area designated by the program coordinator.

CE 696 Independent Study II

A continuation of Independent Study I.

CE 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

CE 699 Thesis II
A continuation of Thesis I.

Department of Chemistry

CH 601 Environmental Chemistry
Advanced study of the chemical reactions necessary to understand the impact that man's activities have on the environment. Areas considered include water and air pollution, power generation, and the release and use of industrial organic chemicals.

CH 611 Special Topics in Advanced Organic Chemistry
Advanced course dealing with topics such as stereochemistry, photochemistry, natural products and mechanisms of organic reactions.

CH 621 Chemical Forensic Analysis with Laboratory (4 credits)
A course intended to present advanced techniques and new developments in the identification of various materials such as pigments, dyestuffs, food additives, pharmaceutical preparations, polymers, synthetic fibers, and inorganic material products. Laboratory fee required

CH 631 Advances In Analytical Chemistry
A course intended to provide background for the recent advances made in instrumentation and current analytical techniques.

CH 670 Selected Topics
A study of selected issues of particular interest to the students and instructor. May be taken more than once.

CH 695 Independent Study I
A planned program of individual study under the supervision of a member of the faculty.

CH 696 Independent Study II
A continuation of Independent Study I.

CH 698 Thesis I
Prerequisite: Completion of 15 credits of graduate work. Periodic meetings and discussion of the individual student's progress in the preparation of a thesis.

CH 699 Thesis II
A continuation of Thesis I.

Division of Criminal Justice

CJ 601 Seminar in Interpersonal Relations

Interpersonal communication in teaching, supervision and in various work relationships. The criminal justice worker as a resource person and facilitator of others is stressed. Humanistic psychology and interpersonal psychology provide the theoretical base.

CJ 602 Seminar in Social Control

An examination of the formal and informal mechanism of controlling or conditioning the social behavior of man vis-a-vis the system of social norms, laws and institutions. The implication of organizing the system of justice under a punishment or rehabilitative ethic will be considered.

CJ 604 Seminar in Theory and Philosophy of Law

The theory and philosophy of law and the relationship between law and society. Emphasis on the nature of the judicial process, the issues of law and personal morality, nonvictim crimes, and the relationship of enforcement agencies to the rules of law.

CJ 605 Social Deviance

A survey of theories relating to the scope and nature of the crime problem. Consideration of the problems of deviancy, including social norms deviancy, mental disturbances, juvenile crime, and the various possible and actual responses to deviancy. Various approaches to the problem of rehabilitation.

CJ 607 Seminar in Criminal Justice Institutions

The machinery of justice in theory and practice. The rule of law and its exceptions in the actual administration of justice. Emphasis on the progressive changes in the development of children's and adolescents' courts, probation and classification clinics. Crime prevention and reforms of the criminal law. Special problems of justice and the poor. Administrative denials of justice, the insane offender, the white-collar criminal and social reconstruction through law.

CJ 608 Law and Evidence

Comprehensive analysis of the rules of evidence. Topics include judicial notice, presumptions, the nature of real and circumstantial evidence, hearsay evidence, confessions and admissions and witnesses. Emphasis on evidence in criminal cases.

CJ 609 Criminological Theory

An analytical review of the multidisciplinary theories of criminal behavior. The impact of various theoretical constructs and concepts on practice will be critically evaluated.

CJ 610 Administration of Justice

A study of all the steps of the criminal justice system from the time the accused is arrested until sentencing to a correctional facility with an objective to review all the problems which arise during this process and to consider some possible solutions which will benefit the individual being processed without subverting the purposes of the process.

CJ 612 Criminal Justice Management

The development of the theory and practice of criminal justice management in the United States. Significant developments and ideas of those who have made major contributions to American criminal justice management.

CJ 613 Alternatives to Prosecution

Areas to be covered will be the history, theory and practice of pretrial diversion, as well as the legal, social and administrative problems inherent in diversionary approaches. Among the specific alternatives to be examined will be: youth service bureaus, family courts, citizen dispute settlement, community responsibility programs and various pre-trial intervention programs.

CJ 615 Forensic Science in the Administration of Justice

The role of natural science in the administration of justice in its broadest aspects. Current concepts, present status and future needs of the forensic sciences. Specific topics in the forensic sciences and their interrelationships with legal issues will also be included.

CJ 618 Probation and Parole: Theory and Practice

The philosophy, theory and methods employed in probation, parole and institutional treatment of the offender. The role of authority, casework, classification, treatment policy and administrative organization in determining the consequences of correctional practice.

CJ 619 Seminar in Comparative Criminal Justice Systems

Prerequisite: CJ 610. A cross-cultural study of police, court and correctional systems and methods.

CJ 622 Learning Theory: Applications in Criminal Justice

Applications of the psychology of learning to police and correction settings.

CJ 624 Group Process in Criminal Justice

Small group interaction; both theoretical and experimental facets of group process are presented. Group counseling and encounter groups.

CJ 628 Introduction to Systems Theory

Concepts of systems theory and systems analysis in contemporary socio-technical environments.

CJ 630 Delinquency and Juvenile Crime

Prerequisite: CJ 610. A general introduction to the field of delinquency and crime, including all aspects of the social, legal and personal matrix out of which these forms of behavior emerge. Special emphasis will be given to the process and implications of delinquency labeling.

CJ 635 Statistics in the Public Sector

Statistical techniques applied to the public sector. Descriptive statistics: measures of central tendency and variability. Introduction to statistical inference including sampling distributions and tests of significance. Some techniques of nonparametric statistics, multiple regression and elementary decision theory. Analysis of variance and covariance.

CJ 637 Contemporary Issues in Criminal Justice

Topics selected by students relating to current issues and concerns in the field of criminal justice. Each student will be required to write a paper and deliver an oral presentation on a selected topic.

CJ 642 Research Techniques in the Social Sciences

Research methodology as applied to problems and issues in the field of criminal justice.

CJ 644 Police in Urban Society

An introduction to some of the current thinking and problems of policing in urban society. The course will examine such issues as the historical growth of the police, the role and mission of the police, measurement of the police tasks, police corruption and other topics of interest to the seminar members. The course will stress the development of analytic thinking in defining and dealing with police problems.

CJ 647 Advanced Criminalistics I (4 credits)

The comparison and individualization of physical evidence by biological and chemical properties is presented in lectures and carried out in the laboratory. The theories and practice of microscopic, biological, immunological and chemical analysis are applied to the examination of blood, saliva, semenal fluid, hair, tissues, botanical evidence and other material of forensic interest. Laboratory fee required.

CJ 648 Advanced Criminalistics II (4 credits)

Advanced microscopic, chemical and instrumental methods will be introduced with extensive "hands-on" experience provided by a laboratory section. Principles and methods of analysis of microscopic and macroscopic evidence such as glass, soil, papers, inks, dyes, paints, varnishes, explosives, fibers, drugs and other potential physical traces will be discussed in class. Laboratory fee required.

CJ 651 Problems in the Administration of Justice

A study of the interaction between the law enforcement official and the accused beginning with detention and/or arrest, during which time the official is seeking to secure incriminating evidence effectively while still protecting the Fourth, Fifth and Sixth Amendment constitutional rights of the "presumed innocent" accused.

CJ 655 Bureaucratic Organization of Criminal Justice

Prerequisite: CJ 610. Through an application of modern organizational theory, a critical analysis of criminal justice agencies will be made. Emphasis will be placed on viewing criminal justice in theoretical perspective. Linkages between theory and operationalization of principles will be made.

CJ 657 Physical Analysis in Forensic Science (4 credits)

The classic firearms examination, classification and comparison of bullets and cartridges, toolmarks comparison and striation analysis, serial number restoration, document examination, voice print identification, fingerprints and polygraphy examination. Laboratory fee required.

CJ 658 Psychiatry and the Law

An examination of issues that relate to the interaction between the law and mental illness and the general role of forensic psychiatry.

CJ 659 Biomedical Methods in Forensic Science (4 credits)

Methods and application of modern toxicology, biochemistry, pathology, dentistry and medicine in forensic science. Laboratory fee required.

CJ 660 Forensic Microscopy (4 credits)

Basic techniques of optical microscopy and the development of operational skills for the use of the microscope as a tool of evidence detection and evaluation. Microscopical measurements and analytical methods will be covered. Laboratory fee required.

CJ 661 Medicolegal Investigation and Identification

An introduction to procedures and techniques for medicolegal investigation of questioned death, and identification of deceased persons, including autopsy technique, odontological procedures and anthropological approaches.

CJ 662 Forensic Toxicology (4 credits)

An in-depth analysis of forensic toxi procedures and methods, determination of metallic, volatile and soluble poisons, analysis for narcotic drugs, other drugs of abuse, and dosage form or from drugs that are commonly abused. Laboratory fee required.

CJ 663 Advanced Forensic Serology (4 credits)

Prerequisite: CJ 647. A detailed study of quantitative procedures for the biochemical identification of body fluid traces; advanced blood grouping procedures in Rh and other blood groups other than ABO; detailed discussion of and procedures for isoenzyme and serum protein polymorphism phenotyping in stain samples. Laboratory fee required.

CJ 670 Selected Issues

A study of selected issues of particular interest to the students and instructor. May be taken more than once.

CJ 672 **Innovative Treatment Programs in Corrections**
The theory and practice of a wide range of innovative correctional treatment modalities will be analyzed. Students will be given the opportunity to participate in various experiential exercises and to develop and propose new treatment approaches.

CJ 690 **Research Project I** (1–3 credits)
Individual guidance on a research endeavor.

CJ 691 **Research Project II** (1–3 credits)
Prerequisite: CJ 690.

CJ 693 **Criminal Justice Internship I**
The student's formal educational development will be complemented by field placement experience in various criminal justice settings or agencies. Field experience will be supervised by designated agency and departmental personnel.

CJ 694 **Criminal Justice Internship II**
Prerequisite: CJ 693.

CJ 695 **Independent Study** (1–3 credits)
Student will engage in a directed independent learning experience, the topic and format to be agreed upon by the student and supervising faculty.

CJ 697 **Thesis I**
Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress toward the completion of the thesis.

CJ 698 **Thesis II**
Prerequisite: CJ 697. A continuation of Thesis I.

CJ 699 **Thesis III**
A continuation of Thesis II.

Department of Communication

CO 601 **Basics of Business Media Production Techniques**
This course will provide a survey of the implementation of various media in the production of instructional and promotional materials specifically for the small and medium business and corporate media departments. The course will emphasize both theoretical and practical problems of audio and visual systems available to the business situation, paying particular attention to the vocabulary and skills which make it possible to transfer an idea from the board room to an effective media presentation. Laboratory fee required.

CO 605 Planning Audio Visual Systems for Business

Prerequisite: CO 601. This course will use the technology learned in the basic course, and apply this to the planning of an audiovisual center within a business or corporation setting. Students will be involved in projects of design and budget.

CO 609 Scripting the Media Presentation

This course is designed to show the student how to select the medium appropriate to the message, write a treatment, develop a story board, script the message and use proper format.

CO 613 Media Presentations for Business

Prerequisite: CO 601, CO 609. This course is designed to provide the student with an opportunity to produce a major instructional or promotional media project for a specific business or corporation. The student will be responsible for finding a sponsor for this project which will be produced in one or any of the audio/visual formats discussed and practiced in prerequisite courses. Laboratory fee required.

CO 621 The Communication Process

Major emphasis on the role of communication in a democracy and the effects of communication content. Brief treatment of content analysis techniques, person-to-person communication and barriers to the flow of communication.

CO 670 Selected Topics

Prerequisite: permission of the adviser. An in-depth examination of a topic in the field of communication which reflects the special research of a faculty member, or the special interest of a group of students. May be taken more than once.

CO 693 Internship

A program of field experience set up by the student and approved by the program adviser under the tutelage of a professional in the field.

CO 695 Independent Study I

A planned program of individual study or research in communication under the supervision of a member of the faculty.

CO 696 Independent Study II

A continuation of Independent Study I.

CO 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings with the adviser of the individual student's progress in the preparation of a thesis.

CO 699 Thesis II

A continuation of Thesis I.

Department of English

E 600 The Uses of Language No Credit

Limited to qualified international students who speak a language other than English. Emphasis upon conversation, pronunciation, composition and laboratory work in the English language.

Department of Economics

EC 600 Basic Economics No Credit

A basic theoretical foundation for students who have a deficiency in economics. The course is a review and refresher of basic economic principles.

EC 603 Microeconomic Analysis

Prerequisite: undergraduate Principles of Economics or EC 600, Basic Economics. Topics in resource allocation and price determination. Theories of choice of consumers, firms, resource owners under monopoly, monopsony, competition and alternative market forms.

EC 604 Macroeconomic Analysis

Prerequisite: undergraduate Principles of Economics or EC 600, Basic Economics. An examination of the roles of consumption, investment, government finance and money influencing national income and output, employment, the price level and rate of growth. Policies for economic stability and growth.

EC 608 Economics for Public Administrators

An examination of the roles of consumption, investment, government expenditure and money influencing national income, output, employment and price level, and growth rate. Special emphasis upon the roles of fiscal and monetary policy and the economics of contemporary social problems.

EC 620 Economic History of Western Europe

A survey of the economic development of western Europe from 1500 to the present. Topics covered include mercantilism, industrialization, imperialism and the emergence of planned economics.

EC 625 Industrial Relations

A survey of the problems, strategies and policies of management and unions in conflict situations and in harmonizing labor-management relations. Labor legislation, collective bargaining and alternative strategies, productivity and other problem areas in labor-management relations are examined.

EC 627 Economics of Labor Relations

A survey of labor economics and the economics of labor relations using both the tools of economic analysis and institutional analysis. The emphasis is on the application of economics to labor problems and labor-management relations.

EC 629 Public Policies Toward Business

A survey of the economic aspects of governmental and business relations. Emphasizes the concept of public control over certain types of business and certain forms of business activity. Combination movements, pricing procedures, anti-trust laws and agencies enforcing them, regulation of transportation and public utilities, rate-making for transport, pricing public utility services, consumer protection and social responsibility.

EC 630 Structure of American Industry

An examination of several major U.S. industries such as automobiles, steel, petroleum, defense and agriculture. Some contemporary problems are analyzed. A study of the powerful economic forces acting on these industries and how firms react to these forces.

EC 635 Comparative Economic Systems

Prerequisite: EC 603-604. Capitalism, Socialism, Communism and other economic systems will be examined with respect to their theoretical foundations and practical applications, including the interrelationships among economic, political and social institutions.

EC 641 International Economics

Prerequisite: EC 603-604. A study of the basic theory and major institutions of international economic relations. Examines critically the techniques and background of protectionism and free trade, and the analysis of customs, unions and price and exchange rate changes. The theory of comparative advantage; the gains from trade and the terms of trade. The balance of payments and national income. Capital movements and economic growth. The evolution of the world economy and international economic institutions. Effects of growth on trade, and trade on growth. Monopolistic practices in international trade. The international monetary system and international monetary reforms.

EC 645 Seminar in Macroeconomic Policy

Prerequisite: EC 603-604. The impact of fiscal and monetary policy upon employment, output and prices. An analysis of past and current economic controls and their impact upon the economy.

EC 650 Economics of Petroleum

Prerequisite: undergraduate Principles of Economics. A survey of the economic development and growth of the American oil industry as part of the international oil industry. Economic aspects of the energy crisis, oil reserves, conservation, OPEC, U.S. energy conservation program, oil pricing, and oil substitutes. Policies of oil exporting nations, oil companies and oil consumer nations throughout the world will be given special attention.

EC 653 Econometrics

Prerequisites: EC 603-604, QA 604-605, or permission of the instructor. A presentation of the important statistical concepts used in econometrics. Topics covered are regression theory, multiple regression, regression extensions, correlation, serial correlation, correlated regressor and error, the identification problem, selected estimating techniques.

EC 658 Transportation Economics

Prerequisite: EC 603-604. A study of the principal economic problems arising in connection with the development and regulation of railroads and other modes of transport.

EC 660 Economic Development of Japan

Prerequisite: EC 603-604. A study in the modernization and economic growth of modern Japan since the Meiji Restoration (1869). Topics include the role of government and planning, and of foreign trade, investment and technology; resource allocation, economic organization, capital formation, agricultural policies, population growth and social change.

EC 665 Urban and Regional Economic Development

Prerequisite: EC 603-604. Structure of the urban and regional economy; goals, processes, problems and policy in urban and regional economic development.

EC 668 Economics of Crime

Prerequisite: EC 603-604. Topics include the economic costs of crime; the costs of preventing crime; the impact of white collar crime on American society.

EC 670 Selected Topics

A study of selected issues of particular interest to the students and instructor. May be taken more than once.

EC 687 Collective Bargaining

Prerequisite: EC 625. Emphasis on the negotiating process. The labor contract as it involves wages, worker security, management authority and handling of grievances arising during the life of the contract.

EC 690 Research Project

Prerequisite: 15 graduate hours or permission of the instructor. Independent study under the supervision of an adviser.

EC 692 Readings in Economics

EC 695 Independent Study I

A planned program of individual study under the supervision of a member of the faculty.

EC 696 Independent Study II

A continuation of Independent Study I.

EC 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

EC 699 Thesis II

A continuation of Thesis I.

Department of Electrical Engineering

EE 603 Discrete and Continuous Systems I

Prerequisite: M 624. Discrete and continuous linear system models. State variable representation and transfer function representation. Feedback control systems, stability, performance and design criteria. State variable and compensation synthesis. Nonlinear systems, describing functions and phase plane techniques. Stability methods of Liapunov.

EE 604 Discrete and Continuous Systems II

Prerequisite: EE 603.

EE 605 Modern Control Systems

Prerequisite: EE 604. Advanced topics in control systems. May include optimal control, dynamic programming, variational approaches, adaptive control, sampled data systems, signal modulated systems, random signal methods.

EE 608 Computer-Aided Design

Prerequisite: M 624. Numerical algorithms for engineering systems analysis. The design problem and performance measures. Optimization of networks and filters. Parameter sensitivities. Device modeling and equivalent circuits.

EE 615 Introduction to Computer Logic

Prerequisite: IE 603 (or equivalent). Introduction to logic elements and to their application in digital networks for processing numerical data. The course deals with analysis and design techniques of combinational and sequential networks and includes a discussion of logic variables, switching functions, optimal realizations, multivariable systems. Design examples will include logic circuits for addition, multiplication, counting, parity generation and detection.

EE 630 Electronic Instrumentation I

Prerequisite: permission of instructor. Design of modern electronic instrumentation. Circuit and system examples, evaluation and design techniques. Emphasis on practical applications including design theory and the circuit techniques used in linear integrated devices. Variety of electronic instrumentation including computer interfaces, signal conditioners, waveform generators and shapers, filters, V/F, A/D, D/A converters and other special purpose circuits.

EE 631 Electronic Instrumentation II
Prerequisite: EE 630.

EE 634 Digital Signal Processing I
Prerequisite: EE 603. A study of the theories of digital signal processing and their applications. Topics include discrete time signals, Z transform, the discrete Fourier Transform, the FFT, digital filter design techniques, homomorphic signal processing and various applications of digital signal processing.

EE 635 Digital Signal Processing II
Prerequisite: EE 634.

EE 640 Computer Engineering I
A study of the structure and organization of PDP 11-10 computer. Operating system, peripheral devices, addressing memory, assembler instruction set, programmed requests, real-time software modules, assembler language programming.

EE 641 Computer Engineering II
Prerequisite: EE 640. Applications of computers to physical systems for monitor control functions. Interfacing using hardware modules. Case studies may include synchronous motor transient studies, shock wave phenomena, dynamic chemical reaction monitoring and control, signal proccessing, sampled data control systems. Students must complete a project.

EE 645 Power Systems Engineering I
Prerequisite: permission of instructor. Concepts and methods of analysis and design of modern power systems will be treated. This will include the network representation of power systems, matrix methods, symmetrical components and the use of the computer in the solution of problems such as short circuit fault calculations, load flow study, economic load dispatching and stability. Other topics may include protection, relaying or transmission system design.

EE 646 Power Systems Engineering II
Prerequisite: EE 645.

EE 650 Random Signal Analysis
A study of the theory of random signals and processes. Topics include a review of probability, random signals, auto and cross correlation, power density, spectral analysis of random signals.

EE 658 Microprocessors – Theory & Applications
Prerequisite: EE 640. A study of the techniques and methods of designing digital systems using a microprocessor as the basic unit. Microcomputer assembly language, operating systems, input/output devices, programmable read-only memories and interfacing.

EE 670 Special Topics - Electrical Engineering

Prerequisite: permission of instructor. A study of selected topics of particular interest to students and instructor. Course may be taken more than once.

EE 695 Independent Study I

Prerequisite: permission of instructor. A planned program of individual study or research under the supervision of a faculty member.

EE 696 Independent Study II

A continuation of Independent Study I.

EE 698 Thesis I

Prerequisite: completion of 15 credits of graduate work. Individual student project under supervision of faculty adviser. Written and oral report required. Student must enroll in 6 credits of thesis.

EE 699 Thesis II

A Continuation of Thesis I.

Courses in the Executive M.B.A. Program

EXID 903 The Communication Process

Communication needs in corporate staff development: cohesion, cooperation, and consensus through effective communication management. The role of communication in thought processes and problem solving.

EXID 906 The Management Process

The role of executives and managers in administrative and operational processes. Topics include organizational goals and structure, planning and performance controls and resource management.

EXID 909 Business and Government Relations

Recent developments and future directions of the business and government interface. Includes contracts, affirmative action, labor negotiation machinery, regulatory agencies and anti-trust legislation.

EXID 912 Financial Accounting

Analysis of the objectives, standards and methods embodied in the financial accounting information system. Emphasis is upon financial reporting standards as they relate to financial position, results of operations and changes in financial position.

EXID 915 Quantitative Decision Making

Examination of statistical methods and their relevance to decision making under uncertainty. Includes an introduction to probability, elements of statistical decision theory and Bayesian analysis.

EXID 918 Managerial Economics

Application of economic analysis to business forecasting, planning and policy formation. Topics include cost-benefit analysis, cost estimation and break-even analysis.

EXID 921 Executive Development Seminar

Examination of a variety of methods of executive development. Role-playing, business games, sensitivity training and transactional analysis.

EXID 924 Financial Management I

Analysis of financial decision models for investment, financing and dividend decisions of the profit-oriented firm. Includes capital budgeting, capital structure and the cost of capital and dividend policy.

EXID 927 Financial Management II

Analysis of financial decision models for the management of working capital. The management of current assets and the related financing mixture.

EXID 930 Marketing Management

The marketing concept and corporate decision making with respect to product planning, advertising and promotion, sales management, distribution channels and price policies.

EXID 933 International Business Seminar

Examination of the theory of international trade, exporting and importing, cultural dynamics and comparative management and marketing systems.

EXID 936 Logistics and Distribution

The design, administration and control of product flows. The importance of total cost planning and alternate channel strategies.

EXID 939 Operations Research and Management

Analysis of management science techniques from the executive perspective. Focus on understanding the value of inventory and systems models, forecasting methods and simulation techniques.

EXID 942 Managerial Accounting

Examination of accounting tools for planning, controlling and evaluating the economic performance of the firm. Topics include budgeting, flexible budgets, standard costs, contribution reporting, responsibility accounting and decision analysis.

EXID 945 Human Resource Management

The effective management of the aggregate human resource in the modern organization. Analysis of personnel policies and procedures, manpower planning and employee training and policies.

EXID 948 Labor-Management Relations

Contemporary issues in labor-management relations are analyzed including collective bargaining, grievance-arbitration procedures and the expanding impact of organized labor on manpower management.

EXID 951 Marketing Management Seminar

Current issues and topics in marketing management. Includes recent regulatory rulings, consumerism and related areas.

EXID 954 Organizational Development

Various methods for effective organizational development in contemporary environments. Analysis of means to improve existing organizations in consideration of past history and changing value structures.

EXID 957 Corporate Policy and Strategy

Analytical frameworks are developed through the study of major corporate policies and strategies. Focus is upon the total organization and comprehensive operation procedures of the complex corporation.

EXID 960 The Executive Seminar

The capstone course of the program. Four separate one-meeting topics such as reducing executive stress, increasing effectiveness, the executive role in business and society, etc.

Courses in Finance Department of Accounting

FI 615 Finance

Prerequisites: EC 603-604, QA 604, A 600 or equivalent. The investment, financing and valuation of business firms. Topics include: discounted cash flow, return on investment, investment decisions under uncertainty, long-and short-term sources of funds, optimal financial structure, cost of capital, dividend policy. (Expansion, merger, working capital management and failure and reorganization may also be covered.)

FI 617 Financial Institutions and Capital Markets

Prerequisites: FI 651, FI 615. This course stresses the financial management of financial institutions and capital market. Analyzes the institutional and theoretical structure of monetary change and the manner in which financial institutions and markets transmit and influence the impact of monetary policy. Special attention to the role of non-monetary financial intermediaries, the structure and regulation of capital markets, and the functions of market yields as the price mechanism that allocates saving to various categories of economic investments.

FI 619 Monetary and Central Banking Policy

Prerequisite: FI 615. The impact of monetary change upon employment, output and prices; the formulation and execution of Federal Reserve policy designed to regulate money, credit and interest rates.

FI 620 Working Capital Management and Planning

Prerequisite: FI 615. The examination and understanding of working capital management, leasing, mergers, and acquisitions and overview of multinational finance.

FI 645 Corporate Financial Theory

Prerequisites: FI 615, FI 651. An analysis of the theoretical structure supporting optimum financial decision making by the business firm. Emphasis is placed upon the determination of the combination of investment, financing and dividend decisions that maximizes the valuation of the firm within a security market context.

FI 649 Security Analysis

Prerequisite: FI 651. An analysis of the determinants of valuation for fixed income securities, common stocks, convertible securities and common stock warrants. Emphasis is placed upon the information and techniques relevant to security valuation and selection and the structure and workings of the securities markets.

FI 651 Portfolio Management and Capital Market Analysis

Prerequisites: FI 615, QA 605 or permission of instructor. Considers the theoretical structure for the procedures (security analysis, portfolio analysis and portfolio selection) which constitute the process of portfolio management, as well as their limitations in practice. Additional attention is placed upon the logical implications of portfolio analysis for capital market theory.

FI 655 Commodity Market Analysis

Prerequisites: FI 615, FI 651. A conceptual and operational examination of the markets in which commodities are traded, the participants and major exchanges including an analysis of the major commodities traded and the factors influencing their prices.

FI 661 Real Estate: Principles and Practices

Prerequisite: FI 615. Real estate from the investor's point of view. Impact of taxation on real estate investments. Emphasis on commercial land use through the use of case studies and problems.

FI 670 Selected Topics

A study of selected issues of particular interest to the students and instructor. May be taken more than once.

FI 690 Research Project

Prerequisite: 15 graduate hours or permission of the instructor. Independent study under the supervision of an adviser.

FI 695 Independent Study I
A planned program of individual study under the supervision of a member of the faculty.

FI 696 Independent Study II
A continuation of Independent Study I.

FI 698 Thesis I
Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

FI 699 Thesis II
A continuation of Thesis I.

Department of Hospitality Administration

HM 610 Content Seminar in Hospitality/Institutional/Tourism Administration
Detailed analysis of recent developments in tourism, mass food service and lodgings administration.

HM 625 Supervisory and Leadership Development in Tourism, Hospitality and Institutional Operations
An incident approach is used to provide a cross section of supervisory situations in hospitality management. Emphasis is given to particular situations involving leadership developments, ethical behavior and formal and informal organizations of social behavior.

HM 630 Personnel and Labor Relations in the Hospitality/Tourism/Institutional Fields
Topics include organizational behavior, personnel selection, placement, supervision, job evaluation, wage and salary administration, motivation morale and union-management relations. Case studies and role playing are integral parts of the course.

HM 635 Applied Dietetics for Health Care Professionals
Examines the competencies necessary to produce a wholesome, nutritionally sound menu for health care and community food service operations. Topics covered are the U.S. Recommended Daily Dietary allowances for vitamins, minerals, proteins, fats and carbohydrates as well as the adjustment of calorie needs for people according to age, build, ambulatory or sedentary needs and special diets.

HM 640 Haute Cuisine for Hospitality Executives
An advanced course which covers the study and preparation of classical food items and service of the major world cuisines, culminated with the serving of a formal banquet. Laboratory fee required.

HM 655 Development of Hotel/Restaurant/Institutional Food Services
Examines the processes for developing profitable hotel, restaurant and institutional services. Some of the characteristics, opportunities, risks and decisions involved in starting hospitality and travel enterprises and institutional food services are studied. Emphasis is on alternative financing.

HM 660 Comparative Tourism
A detailed study of tourism developments in Connecticut compared with similar developments in a foreign state. Arrangements will be made for an on-site visit to a foreign country to facilitate the comparative study.

HM 670 Special Topics in Hospitality, Dietetics and Tourism Administration
An in-depth examination of topics in the field of hotel, restaurant, dietetics and tourism which reflects the special interest of a group of students.

HM 690 Research in Tourism/Hospitality/Institutional Administration
Independent study under the supervision of a faculty member.

HM 695 Independent Study I
A planned program of individual study under the supervision of a faculty member.

HM 696 Independent Study II
A continuation of Independent Study I.

HM 698 Thesis I
Prerequisite: 15 graduate hours, permission of an adviser. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

HM 699 Thesis II
Prerequisite: HM 698. A continuation of HM 698, Thesis I.

Department of Humanities

Colloquia:

HU 601-602 Themes in Western Thought and Culture: Greece, Rome,
Readings in primary sources of some of the classics in Western thought from Homer to the Renaissance. The place of these selected works in the development of Western ideas.

HU 606 Humanism and Its Methodology
A classic idea, work of art, musical composition, work of literature, historical event, and the variety of the critical appraisals of it.

HU 611 Historical Views and Views of History

A survey of modern Western Historiography with particular attention to the methodology of recent and contemporary historians.

HU 616 Art and Thought of the Renaissance

A study of the achievements of some of the major figures of the Renaissance in art, music, philosophy, natural science, literature, drama.

HU 621 The Age of the Enlightenment

Philosophical background of the Age of Reason and its effects upon the art, music, and literature of the period.

HU 626 The Age of Darwin

Scientific thought of the period and its effect upon religious and philosophical ideas, upon art and literature, and upon the development of sociological thought.

HU 631 Culture and Ethics in the Modern Age

Popular attitudes and rational concepts that determine the structure of contemporary America.

HU 636 Philosophical Thought

An examination of the changes in meaning and use of such enduring themes as certainty, existence, God, justice, knowledge, law, right, good.

HU 638 Structuralism and Structural Linguistics

An introduction to the basic principles of structuralism, with special emphasis given to elements of language and linguistic theory.

HU 641 Technology and Human Values

The influence of applied science and technology on our conceptions of ourselves, our society, and our environment.

HU 646 The Social Sciences in Our Time

How the social sciences are related to the humanities, estimates of the human condition in the light of developments in sociology, history, political science, psychology and economics.

Seminars:

HU 651-689 Seminars

Study of a variety of current subjects and specialized areas of study within the designated field. Students may take more than one seminar in the same general area.

HU 651-659 Topics in Humanities

HU 661-669 Topics in History

HU 671-679 Topics in Philosophy

HU 681-689 Topics in the Natural, Physical and Social Sciences

HU 691-695 Independent Study
A planned program of individual study or research under the supervision of a member of the faculty.

HU 698 Thesis I
Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

HU 699 Thesis II
A continuation of Thesis I.

Courses in International Business Department of Marketing

IB 643 International Business Operations
Prerequisites: EC 603-604. A summary of the economic, foreign environment and instructional concepts and constraints encountered by international business, and how they apply to decisions by managers of business operations and makers of official policy.

IB 644 Import and Export Business
Prerequisites: MK 609, IB 643. A managerial approach to international marketing; emphasis on controllable and uncontrollable variables affecting marketing strategies, evaluation of foreign suppliers, methods of financing imports and exports, and documentation for import and export marketing.

IB 645 Structure of World Markets
Prerequisites: MK 609, IB 643. An intensive study of Asia, western and eastern Europe and South America as a complementary trade region for the United States firm. The area is surveyed as a present and potential market as well as an import source. Consideration is given to the historical and racial background of the people; their political, social and educational development; the resources and economic development of the countries in the area; and business practices unique to the area and its countries.

IB 651 Comparative Marketing
Prerequisites: MK 609, IB 643. A systematic study of the national and regional basis of socioeconomic conditions and of distributive business activities. The analysis of international similarities and differences in marketing functions, structures, processes, and factors as related to the physical, economic, political, social and cultural environments. The dynamic changes under way in marketing systems are also considered.

IB 652 Multinational Business Operations

Prerequisites: MK 609, IB 643. Managerial problems and strategies in foreign operations; structuring international operations through acquisition, licensing, or joint venture; the assessment of local competition; the impact of foreign environments; and legal, political and cultural problems facing the multinational firm in its relationship with its host countries.

IB 670 Selected Issues

A study of selected issues of particular interest to the students and instructor. May be taken more than once.

IB 690 Research Project

Prerequisite: 15 graduate hours and permission of the instructor. Independent study under the supervision of an adviser.

IB 695 Independent Study I

A planned program of individual study under the supervision of a member of the faculty.

IB 696 Independent Study II

A continuation of Independent Study I.

IB 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

IB 699 Thesis II

A continuation of Thesis I.

Department of Industrial Engineering

IE 601 Introduction to Operations Research/Management Science

Prerequisites: M 610, IE 607 or QA 604 or equivalent. Introduction to the techniques and philosophies of management science and operations research. Topics include linear programming, inventory analysis, queuing theory, dynamic programming, decision analysis and other management techniques.

IE 602 Computing Fundamentals

An introduction to computing, including consideration of basic concepts and technology, history of automatic computation, algorithms, and flowcharts, number systems, system organization, software systems, survey of programming languages and of special computer applications.

IE 603C Introduction to Digital Computers: COBOL

An introduction to the basic elements of computer science including computer hardware, software, information and data processing. Programming concepts are introduced using COBOL, a common business-oriented language. A student who has taken IE 603F will not be given credit for IE 603C. Laboratory fee required.

IE 603F Introduction to Digital Computers: FORTRAN

An introduction to the basic elements of computer science including computer hardware, software, information and data processing. Programming concepts are introduced using FORTRAN, a common language that is well-suited for scientific and technical work. A student who has taken IE 603C will not be given credit for IE 603F. Laboratory fee required.

IE 604 Management Systems

Techniques of industrial and governmental systems management including general systems and organizational theory.

IE 605 Advanced Business Programming

Prerequisites: IE 603C or proficiency in language similar to COBOL. Advanced programming in COBOL or other business-oriented language within an applied business systems context. Laboratory fee required.

IE 606 Advanced Technical Programming

Prerequisites: IE 603F or proficiency in a language similar to FORTRAN. Advanced programming in FORTRAN or other technically-oriented language with emphasis on scientific and technical applications. Laboratory fee required.

IE 607 Probability Theory

Prerequisite: M 610 or equivalent. Probability of events. Random variables and expectations; discrete and continuous distributions; important standard distributions and applications; moment generating functions; central limit theorem.

IE 608 Assembler Language

Description of the general functional characteristics of a computer's main storage and peripheral units. Interrupt philosophy and interrupt service routines. Discussion of the general philosophy of assembler instructions, code conversion of I/O to and from main memory and familiarization with appropriate reference manuals. Micro instructions will be introduced to allow for writing and running of assembler programs. Macro instructions will be developed to demonstrate techniques for reduced programming time. Laboratory fee required.

IE 610 Computer Systems Selection

Prerequisites: IE 605 or IE 606, IE 614. Techniques for selecting, installing, and operating computer systems and their peripheral equipment. Concepts of decisions with respect to compiler and hardware selection. Development of operating procedures, form design, systems charting and documentation.

IE 611 Budgeting and Control

Prerequisite: A 600. An analytic approach as applied to the principles and policies of operational budgeting and control of expense and capital investments. Includes forecasting techniques, development of totally integrated systems with traditional financial statements and controls from top management to first-line supervision.

IE 612 Managerial Interactions I

An interdisciplinary systems approach to human behavior in organizations with emphasis on the impact of industrial engineering methods on organizational performance. The first course will deal with individual motivation and face-to-face interaction in managerial roles; the second concentrates on organizational development, job enrichment, and modern work attitudes.

IE 613 Managerial Interactions II

Prerequisite: IE 612.

IE 614 Data Information Systems

Prerequisites: IE 603 or equivalent, IE 604. Introduction to automated information systems planning and operations and their impact on management decision making, control functions and communication capabilities. An overview of concepts and procedures with applications in urban environments, large organizations and governmental agencies. Techniques presented include PERT/CPM, Gantt charting, cost-benefit analysis.

IE 615 Transportation and Distribution

Prerequisite: IE 601. Introduction to transportation science with emphasis on physical distribution problems. Survey of operations research models and optimization strategies and their roles in transportation systems management.

IE 619 Enterprise Design and Evaluation

Prerequisite: IE 601. An analysis of the principles and methods used in estimating the probable economic characteristics of proposed enterprises. The student is required to formulate a proposed enterprise, including the technical, financial and organizational requirements.

IE 621 Linear Programming

Prerequisites: M 610 or equivalent, IE 601 or equivalent. Thorough coverage of the techniques and applications of linear programming, a powerful operations research tool for optimal allocation of limited resources in linear systems.

IE 622 Queuing Theory

Prerequisites: IE 601, IE 607. Elements of queuing theory including finite and infinite cases. Single server and multiple server parallel channels, series queues and special cases are analyzed. Experimental methods, including simulation, are presented in the context of industrial environments.

IE 623 Decision Analysis

Prerequisite: QA 605 or IE 607. Decision theory, game theory, and stochastic decision processes. Benefit-cost analyses under uncertainty.

IE 624 Quality Analysis

Prerequisite: IE 607. Concepts of quality and statistical quality analysis. Sampling techniques and decision processes.

IE 643 Reliability and Maintainability

Prerequisites: IE 602, IE 607 or QA 604. The basic theory and methodology of reliability and maintainability, including application of discrete and continuous distributions and statistical designs. Reliability, estimation, structure models and growth models.

IE 651 Human Engineering I

A broad coverage of the physiological, psychological, and sociological aspects of man and the society in which he lives and works. Special topics include human factors, motivation, group dynamics and ekistics.

IE 652 Human Engineering II

Prerequisite: IE 651.

IE 655 Value Engineering

Consideration of value analysis from the point of view of design, manufacturability, procurement, installation and maintainability in order to optimize value in products.

IE 670 Current Topics in Computer and Information Science

Prerequisites: IE 601, IE 603, or permission of the instructor. An examination of new developments or current practices in computer and information science. A topic will be selected for thorough study; possible subject areas include data structures, recent hardware or software advances, specialized applications. Content may vary from semester to semester

IE 671 Current Topics in Operations Research

Prerequisites: IE 601, IE 607, IE 621 or permission of the instructor. An examination of new developments or current practices in operations research. A topic will be selected for thorough study; possible subject areas include non-linear programming, network theory, scheduling techniques, specialized applications. Content may vary from semester to semester.

IE 672 Current Topics in Industrial Engineering

Prerequisite: IE 601 or permission of the instructor. An examination of new developments or current practices in industrial engineering. A topic will be selected for thorough study—possible subject areas include reliability, production engineering, human factors, specialized applications. Content may vary from semester to semester.

IE 681 System Simulation

Prerequisites: IE 601 or equivalent, IE 606 or equivalent. A study of the behavior of systems using computer simulation models of their organizational structure and decision criteria. Laboratory fee required.

IE 682 Compiler Design

Prerequisite: IE 605 or IE606 or permission of the instructor. Design and operation of assemblers and macroprocessors. Introduction to compiler design. Metalanguage. Lexical and syntactic analysis. Interpretive systems. Control of translation, loading and execution. Relocating loaders and overlay generation. Symbolic coding systems.

IE 683 Systems Analysis

Prerequisites: IE 601 or QA 605, IE 614. Techniques and philosophies defining the concept of systems analysis are presented in detail and illustrated with large scale case studies. Diverse systems are analyzed covering the social, urban, industrial and military spheres. Techniques presented include utility theory, decision analysis, and technological forecasting.

IE 684 Multiprogramming Systems

Prerequisite: IE 605 or IE 606 or permission of the instructor. Topics in the areas of operating systems and computer architecture. Multiprogramming and multiprocessor systems. Dynamic storage allocation and virtual memory systems. Time-sharing systems. On-line, real-time systems.

IE 685 Theory of Optimization

Prerequisites: calculus, IE 603F or equivalent. Nonlinear and dynamic programming with special reference to computer analysis of optimization problems.

IE 686 Inventory Analysis

Prerequisites: IE 601, IE 607 or QA 605. Inventory theory and practical applications in operating inventory systems. Model construction, optimization and computer simulation.

IE 688 Design of Experiments

Prerequisite: IE 689 or three credit hours of statistical inference. Principles of modern statistical experimentation and practice in use of basic designs for scientific and industrial experiments; single factor experiments, randomized blocks, latin squares; factorial and fractional factorial experiments; surface fitting designs.

IE 689 Descriptive and Inferential Statistics

Prerequisite: IE 607 or equivalent. Inferential statistical designs, including basic statistical tests and analysis of variance. Statistical theories and application of correlation analysis, multiple linear regression, nonlinear regression, and analysis of covariance.

IE 690 Seminar Project

Prerequisites: 15 credit hours and permission of the program coordinator. Independent study under the guidance of an adviser into an area of mutual interest, such study terminating in a technical report of academic merit. Research may constitute a survey of a technical area in industrial engineering, operations research or computer science, or may involve the solution of an actual or hypothetical technical problem.

IE 695 Independent Study I

Prerequisite: permission of the program coordinator. Independent study under the guidance of an adviser into an area designated by the program coordinator.

IE 696 Independent Study II

A continuation of Independent Study I.

IE 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussion of the individual student's progress in the preparation of a thesis.

IE 699 Thesis II

A continuation of Thesis I.

Courses in Business Law Department of Accounting

LA 673 Business Law I: Contracts and Sales

Survey of the legal aspects of contracts and the results of contractual obligations. Legal problems stemming from the distribution of goods; generally the rights and duties of buyers and sellers and the remedies available to them.

LA 674 Business Law II: Business Organizations and Negotiable Instruments

Basic introduction to problems of formation and operation of legal groups and general legal survey of the role of agency, partnerships and corporations and other complex entities in modern society.

LA 670 Selected Topics

A study of selected issues of particular interest to the students and instructor. May be taken more than once.

LA 690 Research Project

Prerequisite: 15 graduate hours or permission of the instructor. Independent study under the supervision of an adviser.

LA 695 Independent Study I

A planned program of individual study under the supervision of a member of the faculty.

LA 696 Independent Study II
A continuation of Independent Study I.

LA 698 Thesis I
Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

LA 699 Thesis II
A continuation of Thesis I.

Courses in Logistics Management Department of Management Science

LG 660 Logistics Technology and Management
Designed to provide to the student a broad survey of the wide range of logistics activities. Subjects covered: the concepts of the integrated logistics management system, customer interfaces, inventory management and support of spares and supplies, physical distribution management as well as the logistical organization, planning and administration. Discussion in the courses includes also the quantitative analytical techniques and computational tools commonly used in the logistical decision-making process.

LG 663 Logistics Management in the System Acquisition Process
Designed to provide students a general knowledge of the management process for the acquisition of equipment and material. Subject topics are: test and evaluations, specifications as a procurement instrument, procurement methods, type of contracts, etc.

LG 665 Integrated Logistics Support Analysis
Designed to provide students an opportunity to understand the concept of Integrated Logistics Support (ILS), and an overview of each of the elements of logistics specialties, their interface and interaction, as well as the integration of the the separate logistics specialties into a coherent effort and output. Topics covered in this course are reliability, maintainability, life cycle cost, ILS management and major ILS decisions involved, test and support equipment, personnel and training, warranties, etc.

LG 669 Life Cycle Cost Analysis
A study of Life Cycle Cost Analysis (LCCA), a new state-of-the-art management tool used in the defense industry to assist and advise decision-makers to identify a preferred choice among all possible alternatives in acquisition of a new equipment and/or system. Topics discussed will be techniques and concepts such as the total cost concept (e.g., acquisition cost plus the cost of ownership including both the operating cost and the support cost); the fixed cost criterion (e.g., greatest effectiveness); the fixed effectiveness criterion (e.g., least cost) and the marginal utility criterion (e.g., least cost per unit of effectiveness), etc.

LG 670 Selected Topics

A study of selected issues of particular interest to the students and instructor. May be taken more than once.

LG 690 Research Project

Prerequisite: 15 graduate hours or permission of the instructor. Independent study under the supervision of an adviser.

LG 695 Independent Study I

A planned program of individual study under the supervision of a member of the faculty.

LG 696 Independent Study II

A continuation of Independent Study I.

LG 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

LG 699 Thesis II

A continuation of Thesis I.

Department of Mathematics

M 610 Fundamentals of Calculus and Linear Algebra

Prerequisite: M 115 or equivalent. Review of algebra. Topics from calculus, including differentiation and integration methods, applied to problems in science, business, and the social sciences. Linear algebra, systems of linear equations and matrix methods.

M 620 Numerical Analysis

Prerequisite: 9 credit hours of calculus and programming ability in FORTRAN or permission of the instructor. Algorithms for obtaining numerical solutions on computers. Topics include: solution of determinants, solution of systems of linear equations by direct and iterative methods numerical integration, differentiation and solution of differential by finite difference methods. Laboratory fee required.

M 624 Applied Mathematics

Topics in applied mathematics including power series solutions of ordinary differential equations, special functions, matrix theory, and integral transforms.

M 632 Methods of Complex Analysis

Prerequisite: graduate standing in engineering or mathematics. This course is a study of the applications of the methods of complex variables to engineering and physical sciences. Topics include Analytic Function Theory, Contour Integration and Conformal Mapping.

M 670 Special Topics in Mathematics

Prerequisite: permission of the instructor. A study of selected topics of particular interest to students and instructor. Course may be taken more than once.

M 690 Research Project

Prerequisite: 15 graduate hours or permission of the instructor. Independent study under the supervision of an adviser.

M 695 Independent Study I

A planned program of individual study under the supervision of a member of the faculty.

M 696 Independent Study II

A continuation of Independent Study I.

M 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

M 699 Thesis II

A continuation of Thesis I.

Department of Mechanical Engineering

ME 602 Boundary Value Problems

Prerequisite: M 624. Topics in complex variables, evaluation of integrals via residue theorem, special functions, solution of partial differential evaluation by separation of variables, integral transform methods for partial differential equations, Green's function.

ME 603 Approximation Methods

Prerequisite: ME 602. Techniques for realizing engineering solutions to complex systems. Asymptotic expansions and perturbation methods among topics.

ME 604 Numerical Methods

Prerequisite: knowledge of FORTRAN. Quantitative techniques adaptable for computer solutions to engineering problems. Curve fitting, transcendental equations, simultaneous equations and numerical integration and differentiation.

ME 610 Advanced Dynamics

Kinematics and dynamics of particles and systems of particles. Lagrange's equations. Hamilton's principles and canonical transformation theory. The inertia tensor and rigid body motion.

ME 611 System Vibrations

Advanced techniques for analysis of vibrations in mechanical systems. Multiple degrees of freedom, random noise inputs among topics.

ME 615 Theory of Elasticity

Index notation, Cartesian tensors and coordinate transformation, stress tensor and field equation, analysis of stress and strain in two and three dimensions, airy stress function, applications to problems of torsion and bending, experimental methods.

ME 620 Classical Thermodynamics

Phenomenological equilibrium and nonequilibrium thermodynamics. Formulation and application of fundamental laws and concepts, chemical thermodynamics.

ME 622 Statistical Mechanics

Development of the molecular theory of matter; classical and quantum statistical results of equilibrium and kinetic properties of solids, liquids and gases.

ME 625 Mechanics of Continua

Prerequisite: ME 615 or permission of the instructor. Tensor analysis, the stress vector and the stress tensor, kinematics of deformation, material derivative, fundamental laws of continuum mechanics, conservation theorems, constitutive laws, and representative applications.

ME 628 Modern Materials

Survey of the forefront of current engineering materials and processing techniques. Representative topics might include composites, superalloys, laser fabrication and continuous casting techniques.

ME 630 Advanced Fluid Mechanics

Advanced topics chosen from among the following areas: perfect fluids, viscous fluids, turbulence, boundary layer theory, surface phenomena, shock waves, and gas dynamics.

ME 632 Advanced Heat Transfer

Review of the basic concepts of conduction and radiation. Detailed treatment of laminar, turbulent, free and forced convectional flows. Computational projects.

ME 645 Computational Fluid Dynamics and Heat Transfer

Prerequisite: ME 630; corequisite: ME 604 or M 620. Current methods of computer solutions of the conservation equations of fluid dynamics. Viscous, incompressible, compressible and shock flows. Real gas equations of state. Computer projects.

ME 670 Special Topics — Mechanical Engineering

Prerequisite: permission of the instructor. A study of selected topics of particular interest to students and instructor. Course may be taken more than once.

ME 695 Independent Study I

Prerequisite: permission of program coordinator. Independent study under the guidance of an adviser into an area designated by the program coordinator.

ME 696 Independent Study II

A continuation of Independent Study I.

ME 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

ME 699 Thesis II

A continuation of Thesis I.

Department of Management Science

MG 625 Systems Techniques in Business Administration

An integrated study of the techniques for solving administrative problems, including the analysis and improvement of organizational structures, office procedures, forms design, records management, reports and equipment standards. The conduct of a comprehensive systems survey using these techniques is explored in depth as are flow charting and the preparation of manuals.

MG 633 Managerial Economics

Prerequisites: EC 603-604, QA 604-605. A study of the application of the major tools of economic analysis to the problems encountered by management in the organization of the firm. Topics include the theory and measurement of consumer demand, measurement and control of costs, the effects of public policy upon managerial decisions and pricing techniques and the allocation of capital within the firm.

MG 635 Purchasing and Materials Management

This course deals with the management of materials and the procurement function in a business enterprise. The fundamentals auxiliary functions, and management of materials activities provide introduction to an increasingly specialized field of business administration.

MG 637 Management

A study of the functions of management planning, organizing, directing, controlling, coordinating.

MG 638 Cost Benefit Management

Prerequisites: QA 604, EC 603. This course will provide students with an introduction and overview to the field of cost/benefit management. Fundamental theoretical evaluation of cost/benefit of a project will be covered. Other topics discussed include: the selection of the best investment criteria, the external environmental spillover effects, and the application of cost/benefit management in decision making under uncertainty.

MG 640 Management of Health Care Organizations

Identification of the characteristics of health care organizations and the dimensions of management in such organizations. Examination and application of the principles of management necessary for the successful operations of health care organizations. M.B.A. students in the Health Care concentration take MG 640 in place of MG 637 in the core.

MG 641 Contract Administration

Prerequisite: QA 600 or equivalent. The administrative aspects of the contract, modification, evaluation, and sub-contracting. Importance is given to value analysis as it effects government property and affects by action of the contractor and the government. Other issues are covered such as financial and pattern rights.

MG 645 Management of Human Resources

A study of organizational practices in the management of human resources. Manpower planning, recruitment, selection, training, compensation and contemporary problems of the field.

MG 650 Venture Management

Prerequisites: A 621, FI 615, MG 637, MK 609, or permission of the instructor. Deals with the establishment of a new business venture, covering such topics as site development, market analysis, staffing, inventory control, personnel relations and funding.

MG 660 Comparative Management

Prerequisite: MG 637. The main focus of this course is to develop an understanding of managerial practices in different organizations and systems. A conceptual framework is developed for the analysis of interaction between managerial processes and cultural factors as they affect the management of enterprises in various organizations and systems.

MG 661 Development of Management Thought

Prerequisite: MG 637. Study of the literature from various disciplines in order to determine the thinking and practices of leaders of organizations, past and present. The historical perspective of management thought will be developed. The contributions of religion, philosophy, economics, sociology and psychology to management thought and practice will be examined. Emphasis on pioneering works in the management of organizations. Case studies of the thinking and practices of famous leaders of American business enterprises.

MG 662 Organization Theory

Prerequisite: MG 637. A survey of the literature on theories of organization with emphasis on contemporary theories. Application of the theories to management and organizational problems will be attempted. Difficulties arising between theory and practice will be examined.

MG 663 Leadership in Organizations

Prerequisite: MG 637. Examination of theories and research findings from the behavioral sciences that are relevant to leadership in organizations. The role of the leader within the organization; the prerequisites, knowledge and practices required for successful leadership will be studied. Programs for the development of leaders will be explored.

MG 664 Organizational Effectiveness

Prerequisite: MG 637. Identification of the criteria necessary for developing and maintaining effective organizations. A study of the concepts that may be utilized in the management of these criteria. Approaches that may be utilized in developing managers in the use of these concepts will be examined and applied to problem situations through cases and role playing.

MG 665 Compensation Administration

Prerequisites: MG 645 and EC 635. A study of the compensation function in organizations. Establishing wages and salaries, fringe benefits and incentives.

MG 669 Business Policy and Strategy

Prerequisites: MG 637 and 3 credit hours of 600-level MG course work. Management policies and strategies for the complex organization operating in a dynamic environment are examined from the viewpoint of the top-level executives of the organization. Develops analytical frameworks for the management of numerous elements involved in assuring the fulfillment of the goals of the total organization. Integrates the student's general business knowledge with the required courses in the M.B.A. program. Emphasis is placed on the development of oral and written skills by the examination and discussion of cases.

MG 670 Selected Topics

A study of selected issues of particular interest to the students and instructor. May be taken more than once.

MG 675 Readings in Management

A seminar. Examines the literature in selected areas of management.

MG 678 Personnel Management Seminar

Prerequisites: MG 637, MG 645, P 619 & EC 625. A seminar in the personnel and manpower management function of the modern work organization. The use of an integrated behavioral, quantitative, and systems approach permits an applied multidisciplinary synthesis of the various aggregate manpower management subsystems required in the modern work organization.

MG 679 Industrial Relations Seminar

Prerequisites: MG 637, P 619, EC 625 & EC 687. A seminar in industrial relations and the labor-management relations function of the modern work organization. The use of an integrated behavioral, economic, and legal approach permits an applied multidisciplinary synthesis of the employee relations function required in either non-unionized or unionized work organizations.

MG 680 Current Topics in Business Administration

Prerequisite: 15 graduate hours or permission of the instructor. An integrative course that will examine the role of business in society and relate the business firm to its social, political, legal and economic environment. While the exact content of this seminar is expected to vary from semester to semester in accordance with the varied academic interests and professional backgrounds of different faculty handling the course, the basic theme is the role of the business firm as the "keeper" of the market mechanism and the means for organizing resources in the economy.

MG 685 Research Methods in Business Administration

Prerequisite: QA 604 or equivalent. Designed to familiarize administrators with the tools and potentialities of social research and to assist them in the presentation, interpretation and application of research data.

MG 690 Research Project

Prerequisite: 15 graduate hours or permission of the instructor. Independent study under the supervision of an adviser.

MG 695 Independent Study I

A planned program of individual study under the supervision of a member of the faculty.

MG 696 Independent Study II

A continuation of Independent Study I.

MG 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

MG 699 Thesis II

A continuation of Thesis I.

Department of Marketing

MK 609 Marketing

Prerequisites: EC 603-604. An intensive study of modern marketing fundamentals, a study of the decision-making problems encountered by the marketing executive and the relation of marketing to environmental forces.

MK 616 Buyer Behavior

Prerequisite: MK 609. An examination of the principal comprehensive household and organizational buyer behavior models and the behavioral science theories upon which such applied models are based. The buyer is analyzed at the individual level, at the social level and at the organizational level.

MK 639 Marketing Research and Information Systems

Prerequisites: MK 609, QA 605. A managerial approach to marketing information flow, including recognition of information needs and an overview of marketing research as part of an information system. Special attention to evaluation of research design and measurement methods, effective utilization of research output, and problems encountered in establishing a marketing information system.

MK 641 Marketing Management

Prerequisite: MK 609. The treatment of the basic decision problems of marketing management in terms of a conceptual framework for analysis. Consideration of the role played by human judgments and the mathematical tools available to aid in these judgments in a number of marketing areas, notably market analysis, pricing decisions, advertising decisions, promotional decisions and selection of distribution channels.

MK 643 Product Management

Prerequisite: MK 609. The search for new product ideas and their evaluation; the organization structure necessary to the development and introduction of new products and the management of a product line; the commercial aspects of product design, packaging, labeling and branding; considerations involved in making product deletion decisions; and the social and economic effects of managing product innovation.

MK 644 Consumerism

Prerequisite: MK 609. An analysis of the evolution of the consumerist movement; how and why it has developed; government agencies dealing with consumer problems; the impact of various market structures on the consumer; the impact of consumer-oriented legislation on marketing strategies; and the responsibility of business to the consumer and to society.

MK 645 Distribution Strategy

Prerequisite: MK 609. Analysis of channel strategies; theory and economic justification of distribution channels; direct and indirect methods of control; behavioral states of channel members; costing the channel; and management of changes in distribution.

MK 670 Selected Topics

A study of selected issues of particular interest to the students and instructor. May be taken more than once.

MK 680 Marketing Workshop

This course is centered around a structural model of a business firm. The major objective is to provide the student with an opportunity to develop managerial insights and skills in dealing with marketing problems in a competitive environment. Each of the participants is grouped into decision-making units (companies) and assumes the role of a marketing executive operating a business firm. These executives will be responsible for planning, organizing, staffing, directing and controlling their firm's resources.

MK 690 Research Project

Prerequisite: 15 graduate hours and permission of the instructor. Independent study under the supervision of an adviser.

MK 692 Readings in Marketing

MK 695 Independent Study I

A planned program of individual study under the supervision of a member of the faculty.

MK 696 Independent Study II

A continuation of Independent Study I.

MK 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

MK 699 Thesis II

A continuation of Thesis I.

Department of Psychology

P 605 Survey of Community Psychology

An examination of historical roots and current concepts. A social-problems approach to psychological dysfunction. Changing professional roles. Community organization and human service delivery; strategies of intervention and community change.

P 607 Special Problems in Community Psychology

Theory and practice of community psychology with selected problems, populations and settings. Emphasis on community psychology service issues and problems in the Connecticut area.

P 609 Research Methods

Prerequisite: Undergraduate course in statistical methods. Introduction to analytic concepts pertinent to sampling techniques, research design, variable control and criterion definition. Basic problems of measurement, research paradigms, sources of error in research interpretation, problems of variable identification and control, and consideration of the logic of inference.

P 610 Program Evaluation in Community Psychology

Prerequisite: P 609. A systematic study of the processes involved in planning, implementing and evaluating social service programs. The focus is on action research strategies which integrate the entire process from planning and grant application to the evaluation of the program.

Practicum Seminars and Field Work

An apprenticeship or on-the-job role in an ongoing program or center. Emphasis on developing conceptualizations and insights as a result of involvement in the apprenticeship. Placement at a field site for 8 to 10 hours per week. Weekly class meetings serve two purposes: to present specific theoretical material and research findings appropriate to each seminar and to allow students to discuss their field training experiences.

P 611 Practicum Seminar I: The Dyadic Relationship

Content focuses upon one-to-one relationships in community psychology. See general description above.

P 612 Practicum Seminar II: Models of Consultation

Content focuses upon community consultation. See general description above.

P 613 Practicum Seminar III: Systems Intervention

Content focuses upon intervention into and change in community systems. See general description above.

P 614 Field Work I

See general description above.

P 615 Field Work II

See general description above.

P 616 Field Work III

See general description above.

P 618 Community Mental Health Philosophy and Concepts

Considerations of the philosophical bases which underlie traditional approaches to mental health. A study of the implied cultural values and attitudes which have determined the locations, the settings, the methods and the objectives of mental health treatment concepts, programs and techniques.

P 619 Organizational Behavior

Analysis of various theories of business and managerial behavior emphasizing the business organization and its internal processes. Psychological factors in business and industry, including motivation, incentives and conflict. A study of research findings relevant to an understanding and prediction of human behavior in organization.

P 620 Industrial Psychology

Psychological theories and research applied to business and other organizations. Problems and methods in selection and placement, training, performance appraisal, motivation and leadership.

P 621 Behavior Modification

Theory and research in behavior modification. Aversive learning, desensitization, operant conditioning. Applications in clinical and non-clinical settings.

P 623 Psychology of the Small Group

Analyses of the behavior and interaction of people in mutual gratification groups, committees, work groups and clubs.

P 625 Advanced Psychology of Human Development

In-depth exploration of development through the life cycle and the developmental impact of family, neighborhood, schools, work, class, race, sex, etc.; key theoretical concepts; research findings; community intervention.

P 627 Attitude and Opinion Measurement

Prerequisite: P 609. Examination of modern methods of attitude and opinion measurement. Scale, schedule, and interview formats. Respondent sets. Consideration of sampling problems.

P 628 The Interview

The interview as a tool for information gathering, diagnoses, mutual decision making and behavior change. Use of role playing provides the student with insights into nuances of interpersonal relationships. Applications to selection, counseling and other situations.

P 629 Introduction to Counseling

The roles of the client and the counselor in the counseling relation. Examination of underlying assumptions.

P 630 Psychology of Personality

Major personality theories and their implications. Examination of the psychological and organic factors involved in personality development and expression.

P 631 Social Psychology

Current problems in social psychology. Attitude scale construction, attitude change, language as a social phenomenon, patterns of culture, social class, groups, person perception and conformity.

P 632 Group Dynamics and Group Treatment

An exploration of the emerging area of group dynamics. The structure of groups, their development, process interaction analysis, formal and informal groups, group psychotherapy and sensitivity training.

P 633 Problems of Drug Abuse

Discussion of selected issues and current problems in drug abuse.

P 634 Personality Assessment

A critical survey of the theories and issues of personality assessment. Topics include intelligence, achievement and ability assessment. Personality tests and ethical questions associated with psychological testing.

P 635 Assessment of Human Performance with Standardized Tests

Prerequisite: P 609. Theories, assumptions and constraints underlying construction and application of standardized tests employed in clinical, educational, governmental and industrial settings. Emphasis on selection of appropriate standardized tests for specific applications.

P 636 Abnormal Psychology

Etiological factors in psychopathology dynamics and classification of neuroses, psychophysiologic conditions, psychoses, personality disorders, organic illness, retardation and childhood diseases.

P 638 Psychology of Communication and Opinion Change

Characteristics of the source, the situation, and content of messages, along with other variables influencing attitudinal modification. Cognitive factors and social settings in attitude change.

P 640 Industrial Motivation and Morale

Prerequisite: P 619. The meaning of work; theories of motivation. Stimulus deprivation and expectation of reinforcement; job satisfaction and motivation; pay as an incentive; interventions to increase work motivation. Case studies.

P 641 Personnel Development and Training

Prerequisite: P 619 or P 620. Identification of skills and developmental needs, both from an organizational and individual perspective. Techniques for assessment and development of skills, especially at the managerial level. Training approaches. Evaluation of training efforts.

P 642 Organizational Change and Development

Prerequisite: P 619. The nature of organization development, intervention by third-party consultation, change in organization structure and role relationships, managerial grid, participation, conformity and deviation.

P 645 Seminar in Organizational/Industrial Psychology

Prerequisite: P 609 and P 619. An examination of the professional psychologist at work in organizations. Emphasis on measurement methods, prediction, validation, selection, training, and performance appraisal; practitioners in business, industry, research organizations and government will provide insights into the application of psychological principles and methods.

P 650 Ecological Psychology

An in-depth study of the relationship between molar human behavior and the sociophysical settings in which it occurs. Human behaviors are conceptualized as adaptive responses to environmental systems that provide their contexts. Particular emphasis will be placed on the ecological match between human service organizations and their clients. Class seminars will alternate with on-site study of human service agencies.

P 660 Contemporary Issues in Organizational/Industrial Psychology

Prerequisite: 12 hours in psychology or consent of the instructor. Indepth investigation of topical areas of concern in organizational/industrial psychology. Topics may include, but are not limited to, the impact of EEOC regulations on selection and promotion; assessment centers; the role of the consultant in organizations; flex-time, day care, and other strategies to accommodate family needs of employees; stress in work settings; women in management. Content will be stated at the time the course is scheduled. Students may petition for a particular topic they feel would fit their academic goals. May be taken twice.

P 670 Selected Topics

A study of selected issues of particular interest to the students and instructor. May be taken more than once.

P 672 Psychology of the Middle and Later Years

A comprehensive consideration of the psychological aspects of the aging process. Sensation, perception, cognition, intelligence, problem solving, memory and sexuality, personality changes. Disengagement, rigidity. Death and its anticipation.

P 678 Practicum I

For students already employed in a managerial or supervisory role. A job-related research project is carried out under faculty supervision.

P 679 Practicum II

Prerequisite: P 678.

P 693 Organizational Internship I

For students without experience at the managerial or supervisory level. Under faculty supervision, the student engages in field experience in an industrial setting.

P 694 Organizational Internship II
Prerequisite: P 693.

P 695 Individual Intensive Study I
Prerequisite: completion of required courses or 24 graduate hours and written approval of department chairman. Provides the graduate student with the opportunity to delve more deeply into a particular area of study under faculty supervision.

P 696 Individual Intensive Study II
Prerequisite: P 695.

P 698 Thesis I
Prerequisite: completion of all required courses or 24 graduate hours and written approval of departmental chairman. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

P 699 Thesis II
Written approval of departmental chairman. A continuation of Thesis I.

Department of Public Administration

PA 601 Principles of Public Administration
The development, organization, functions and problems of national, state and local governmental administration.

PA 602 Public Policy Formulation and Implementation
The relationship between public administration and the formulation of public policy is studied. The implementation of public policy by administrators based on the politics of the administrator is examined in terms of interaction between various group representatives, i.e., the legislators, the politician, and pressure group leaders.

PA 604 Seminar in Communities and Social Change
Interactions among the community as a social organization and education, police and welfare institutions within it; special attention to conceptual frameworks and current research or action programs that particularly affect minority groups.

PA 611 Research Methods in Public Administration
Designed to familiarize administrators with the tools and potentialities of social research, and to assist them in the presentation, interpretation and application of research data.

PA 620 Personnel Administration and Collective Bargaining in the Public Sector

Recommended prerequisites: PA 601, PA 604. Study of the civil service systems in the United States and the state governments, including a systematic review of the methods of recruitment, promotion, discipline, control and removal. Explores the effects on work relationships of collective bargaining statutes which have been adopted by legislatures. Emphasis is placed on Connecticut's collective bargaining statutes.

PA 625 Administrative Behavior

Recommended prerequisites: PA 601. The problems faced by an administrator in dealing with interpersonal relationships and human processes. Analysis of individual and group behavior in various governmental and business settings to determine the administrative action for the promotion of desired work performance. Emphasis given to the public sector. Participation in actual problem situation discussions and case studies.

PA 630 Governmental Accounting

Recommended prerequisite: PA 601. The problems faced by an survey of the essential principles of governmental accounting, budgeting, cost accounting, and financial reporting. The various operating funds, bonded debt, fixed assets, investments, classification of revenue and expenditures, general property taxes and interfund relationships.

PA 632 Public Finance and Budgeting

Recommended prerequisites: PA 601, EC 608, PA 604. State and local expenditure patterns, state and local revenue sources, income taxation at the state and local level, excise taxation, sales taxation, taxation of capital and the property tax. Emphasis on fiscal and economic aspects of federalism and federal-state fiscal coordination. The role of the budget in the determination of policy, in administrative integration, in control of government operations.

PA 634 Problems of Municipal Management

Recommended prerequisites: PA 601, PA 604. Study of selected problems of city management with emphasis on "housekeeping" and line operations.

PA 635 Statistics for Public Administrators

Provides a basic theoretical treatment of the nature of statistical analysis and its role in economic research design and procedure.

PA 641 Financial Management of Health Care Organizations

Theory and application of financial planning and management techniques in health care organizations. Emphasis is on financial decision making, preparation of short-term and long-term cash, capital, and revenue and expense budgets and financial plans to meet the requirements of HCFA and other third parties.

PA 642 Health Care Delivery Systems

This course deals with a contemporary analysis of health care delivery systems in the U.S. Financial, cost, economic, political and organizational issues will be discussed.

PA 643 Health and Institutional Planning

Designed to develop skills and understanding of the dynamics of health and social planning processes with respect to consumer demand, national and local health goals and the optional location of facilities, services and manpower.

PA 644 Administration of Programs and Services for the Aged

The structure, function and properties of publicly and privately funded programs and service organizations providing health services to the aged. The economic, political, legal and social issues which affect the administration of human service organizations will be studied, with emphasis on administration of health care services.

PA 645 Health Care Economics and Finance

Recommended prerequisite: PA 641. This course integrates the accounting, economics, finance, budgeting, and health insurance principles, concepts and analytical tools which are essential to the decision-making processes of health care organizations.

PA 650 Administrative Law

A search for principles and criteria against which public interest can be balanced with private right in the changing patterns of government, with particular reference to the American system.

PA 660 Urban Planning: Theory and Practice

Recommended prerequisites: PA 601, PA 604. Explores the concept of physical planning within the urban developmental framework. The function of planning in its relationship to the environment. Comprehensive planning with its many ramifications involving the various sections of our society. Methods for analyzing problems as well as design methods for problem solving.

PA 661 Problems of Metropolitan Areas

Analysis of the problems of government and administration arising from the population patterns and physical and social structures of contemporary metropolitan communities.

PA 662 Environmental Design

A nontechnical introduction to the physical sciences of ecology and the principle areas of pollution. Industry problems of pollution control and effects of recent legislation will be explored to show how decisions of society affect our environment.

PA 663 Urban Housing

Encompassed are the subjects of housing management, planning, finance and policy. Specific topics such as the provision of low-income housing, the use of mortgage insurance, interest subsidies, site planning, rent controls, code enforcement, mortgage markets, and the rise of housing abandonment are stressed.

PA 664 Zoning and Land Subdivision Regulation

Recommended prerequisite: PA 660. Ordinance structure and planning theory as expressed in texts of ordinances. Selected court cases.

PA 670 Selected Topics

A study of selected issues of particular interest to the students and instructor. May be taken more than once.

PA 671 Administrative Problems

Exploration of the practical experiences and problem-solving situations in the day-to-day activities of a public administrator.

PA 680 Seminar in Public Administration

Exact material to be covered will be announced.

PA 690 Research Project I

Prerequisites: 15 graduate hours, permission of the public administration graduate program coordinator. Independent study for advanced graduate students on selected problems in public administration.

PA 691 Research Project II

Prerequisites: 15 graduate hours, permission of the public administration graduate program coordinator. Independent study for advanced graduate students on selected problems in public administration.

PA 692 Readings in Public Administration

Prerequisite: 15 graduate hours or permission of the instructor.

PA 693 Public Administration Internship

Prerequisites: 15 graduate hours, permission of the public administration graduate program coordinator. A supervised work experience in a cooperating public service agency. Students must be available for at least one day per week.

PA 695 Independent Study I

A planned program of individual study under the supervision of a member of the faculty.

PA 696 Independent Study II

A continuation of Indedependent Study I.

PA 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussion of the individual student's progress in the preparation of a thesis.

PA 699 Thesis II

A continuation of Thesis I.

Department of Physics

PH 680 Special Topics – Physics

Prerequisite: permission of the instructor. A study of selected topics of particular interest to students and instructor. Course may be taken more than once.

Courses in Philosophy Department of Humanities

PL 601 Ethics and the Public Purpose

The business enterprise seen as the focus of objective and relative values and as part of the endeavor toward a common good.

Department of Political Science

PS 601 Constitutional Law

A study of the relation of the judicial process and constitutional law to the political process in the United States. Judicial review, federalism and separation and delegation of powers.

PS 602 Civil Liberties and Rights

An analysis of civil liberties, civil rights, due process, and equal protection of the law. An examination of the role of the public official in the protection, denial or abridgement of the constitutional and legal rights of individuals.

PS 603 International Law

A study of the role of international law in the modern state system with particular reference to individuals; territorial jurisdiction; law of the sea, air and space; and the development of law through international organizations.

PS 605 Criminal Law

Scope, purpose, definition and classification of criminal law. Offense against the person; habitation and occupancy. Offenses against property and other offenses. Special defenses. Emphasis on the Connecticut penal code.

PS 608 The Legislative Process

An analysis of the legislative process in the American political system. Stress will be placed on legislative politics in state and local government. Among areas covered will be legislative functions, selection and recruitment of legislative candidates, legislative role orientations, the legislative socialization process, the committee system, the legislators and their constituencies, legislative lobbyists, legislative decision making, legislative-executive relations and legislative organization and procedures.

PS 616 Urban Government

An examination of the urban political system. Stress will be placed on the political aspects of urban government structures. Among the areas covered will be formal and informal decision making in urban government, community power structures, types of urban government structures, the politics of inter-governmental relations and the politics of servicing the urban environment (social services, planning agencies, education, housing, transportation, health, pollution control and ecology, revenue sharing, public safety, neighborhood corporations, etc.).

PS 626 Decision Making in the Political Process

An in-depth study of decision making in the American system with special emphasis upon the various types of mechanisms, i.e., executive, legislative, judicial, bureaucratic, organizational and military. The influence of intelligence, economic and psychological factors and social pressures upon decisions and decision makers will be examined.

PS 628 Change and Government

A study of the major processes of change and their consequences for the functioning of government. The course will concentrate upon changes that may occur through violence, evolution or technology, and which may alter the effective operation of government.

PS 633 The Political Process and the Aged

A study of the political process as it relates to the aged. Governmental decision making on federal, state and local levels including legislation and its implications.

PS 635 Law and Public Health

A course for the civil servant or health professional concerned with the laws relating to the public health at the federal, state and local level as well as the practical administration of those laws.

PS 641 The Politics of the World Economy

An examination of the global politico-economic system and the challenges facing world diplomacy. Multinational corporations and political structures designed to coordinate global policies for the monetary and trade systems, international organizations and their impact on third world development, and problems facing industrialized nations will be analyzed.

PS 670 Selected Topics

A study of selected issues of particular interest to the students and instructor. May be taken more than once.

PS 695 Independent Study I

A planned program of individual study under the supervision of a member of the faculty.

PS 696 Independent Study II

A continuation of Independent Study I.

PS 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussion of the individual student's program in the preparation of a thesis.

PS 699 Thesis II

A continuation of Thesis I.

Courses in Quantitative Analysis Department of Management Science

QA 600 Quantitative Analysis No credit

Basic mathematics for solving economic and business problems. Topics include algebra review, equations and inequalities, graphs, exponential and logarithmic functions, an introduction to differential and integral calculus, and matrix algebra.

QA 604 Probability and Statistics

Prerequisites: QA 600 or equivalent. An introduction to business statistics. Topics include data analysis and presentation, frequency distributions, probability theory, probability distributions, decision making under uncertainty, sampling and statistical inference, hypothesis testing, t, chi-square, and F tests.

QA 605 Advanced Statistics

Prerequisite: "B" or better grade for QA 604. A continuation of QA 604. Topics include simple regression and correlation, multiple regression, analysis of variance, the general linear model and an introduction to time series analysis and forecasting techniques.

QA 606 Advanced Management Science

Prerequisites: IE 601, QA 604-605. An examination, from a management viewpoint, of the scope of applicability of the methods and models developed in IE 601, Introduction to Operations Research/Management Science, and QA 604-605, Probability and Statistics, and Advanced Statistics. Topics include parametric programming and economic interpretation of the dual LP problem, marginal costs and revenues, shadow prices, opportunity costs, incremental costs, costs of deviation from optimal solution point(s), and location or construction of desirable alternate optimal solutions.

QA 607 Forecasting

Prerequisite: QA 605 or permission of the instructor. This course will present a wide range of forecasting methods useful to students and practitioners of management, economics and other disciplines requiring forecasting. The course will focus on quantitative techniques of forecasting and will include: smoothing and decomposition approaches, multiple regression and econometric models, and autoregressive/moving average methods including generalized adaptive filtering and Box-Jenkins methodology.

QA 670 Selected Topics

A study of selected issues of particular interest to the students and instructor. Course includes applied regression analysis, analysis of variance, factor analysis, multivariate analysis, nonparametric statistics and simulation. May be taken more than once.

QA 690 Research Project

Prerequisite: 15 graduate hours or permission of the instructor. Independent study under supervision of an adviser.

QA 695 Independent Study I

A planned program of individual study under the supervision of a member of the faculty.

QA 696 Independent Study II

Prerequisite: QA 695.

QA 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

QA 699 Thesis II

Prerequisite: QA 698. A continuation of QA 698, Thesis I.

Courses in Science
Department of Biology, Environmental Studies and General Science

SC 601 Ecology for Environmental Engineers

An introduction to the biological aspects of environmental problems. Includes discussion of the concepts of bioecology, organisms (microorganisms, plants, animals) important in pollution control and detection, and human organ systems most affected by pollution.

SC 602 Pollutants and the Aquatic Environment

Prerequisite: SC 601. Discusses the interrelationships among the various kinds of pollutants, the morphology of the lake, river, or coastal area, and the effects on the individual organism and the ecosystem as a whole. Treatment methods using organisms are also discussed.

SC 603 Air Pollution

Prerequisite: SC 601. An introduction to air movements in the atmosphere and their relation to pollutants; the effect of air pollution upon organisms with special emphasis on the effects on human beings.

SC 608 Water Quality

Prerequisite: SC 601 or undergraduate biology major. Recognition of the organisms and substances of polluted waters; the selection of the appropriate methods for collection, testing, and analysis of the data. The functions and interrelations of governmental agencies in controlling water pollution.

SC 610 General Environmental Health

Prerequisite: SC 601 or undergraduate biology major. Principles of public health with general emphasis given to environmental factors such as air and water pollutants, legal standards and preventative measures and their relationships to public health.

SC 612 Freshwater and Marine Biology

Prerequisite: SC 601 or undergraduate biology major. Investigation of relationships between aquatic systems and the organisms living in these systems. Emphasis placed on the manner in which ecological studies of aquatic systems are conducted.

SC 621 Microbiology

Prerequisites: SC 301, or permission of the instructor. Use of current literature to view the beneficial and deleterious impacts of microorganisms, from viruses to fungi, on the environment. Topics will be diversified and dependent upon student preference.

SC 622 Bacteriology

Prerequisites: SC 301, SC 302, or permission of the instructor. Study of the characteristics basic to classification of bacteria. Group-by-group study of bacteria with emphasis on the major detrimental and beneficial contributions of each group as they affect man and the environment. Students will be expected to survey recent findings in scientific publications.

SC 642 Physical Aging

Prerequisite: SC 121 or some undergraduate biology. A study of the aging process in man and its effects on the various component systems of the body — muscular, skeletal, endocrine, etc. — in health and disease.

SC 670 Selected Topics

Prerequisite: 9 graduate hours. A study of selected issues of particular interest to the students and instructor. May be taken more than once.

SC 690 Research Project

Prerequisite: permission of the instructor. Independent study under the supervision of an adviser.

SC 695 Independent Study I

A planned program of individual study under the supervision of a member of the faculty.

SC 696 Independent Study II

A continuation of Independent Study I.

SC 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussions of the individual student's progress in the preparation of a thesis.

SC 699 Thesis II

A continuation of Thesis I.

Department of Occupational Safety and Health Management

SH 602 Safety Organization and Administration

The nature and extent of work accidents and injuries; the history and development of the safety movement; objectives, responsibility, and organization of an effective occupational safety program including a knowledge of computation of measurement, workman's compensation, cost analysis, safety engineer's function, safety motivation theory, the human element, and accident investigation techniques.

SH 605 Industrial Safety Engineering

An analysis of the major physical hazards in industrial work and the attendant safety practices employed to eliminate the hazardous condition or minimize the likelihood and extent of injury. This includes the hazards associated with machinery, combustion, electricity, material handling and fire.

SH 608 Industrial Hygiene Practices

Recognition of the magnitude and extent of the health hazards characteristic of industrial work. An evaluation of the danger, the control of the hazard, and the protection of the worker.

SH 620 Occupational Safety and Health Law

A survey of the major federal Occupational Safety and Health laws with an emphasis on the Occupational Safety and Health Act of 1970 (Public Law No. 91-956) as well as state and Federal Workman's Compensation law. Studies will focus on the Administration of the laws, their major provisions, the enforcement process as well as the Federal/State interrelationships in this milieu.

SH 630 Product Safety and Liability

An investigation into the legal pitfalls and the human concerns inherent in the marketing and consumption of goods: Sellers responsibility, product liability, insurance, labeling requirements, The Consumer Product Safety Act and related acts, the procedures for minimizing legal risk and maximizing human safety and health.

SH 650 Seminar in Contemporary Issues

An investigation into and a critique of the current and future developments in the Occupational Safety and Health field and the management skills that will be necessary to effectively cope with them.

SH 670 Selected Topics

A study of selected issues of particular interest to the students and instructor. May be taken more than once.

SH 695 Independent Study I

A planned program of individual study under the supervision of a member of the faculty.

SH 696 Independent Study II

A continuation of Independent Study I.

SH 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussion of the individual student's progress in the preparation of a thesis.

SH 699 Thesis II

A continuation of Thesis I.

Courses in Sociology Department of Sociology and Social Welfare

SO 601 Minority Group Relations

An interdisciplinary survey of minority groups in the United States with special reference to ethnic, religious and racial factors that influence interaction.

SO 610 Urban Sociology

Prerequisite: PA 604. The problem of urban growth and development. Residential patterns together with the physical development of cities and the redevelopment plans. An examination of the people and their relationships to the environment.

SO 620 Sociology of Bureaucracy

A study of some of the classic conceptualizations of bureaucracy and their relevance to the structure and functioning of American economic and governmental institutions. The course will be designed to give students informational and experiential resources with which they, as planners and managers, can improve their abilities to make effective policy decisions. Strongly recommended for gerontology students.

SO 631 Population Problems and Human Ecology

A sociological approach to social demography with attention to population growth, patterns of distribution of population and the population changes and trends.

SO 641 Death and Suicide

In-depth analysis of suicide. Traditional theories of suicide are analyzed regarding the psychological approach as well as the demographic and group analysis of sociology. The goal of the course is both academic and practical, stressing community application. Strongly recommended for gerontology students.

SO 649 Seminar in Health and Social Policy

Prerequisite: consent of instructor. Analysis of the legal, political social, economic and organizational factors in planning and providing healthcare services with emphasis on policy formulation and implementation. Current health policy issues will be discussed.

SO 651 Social Gerontology

Basic introduction to the field of gerontology. Discusses the history and definition of the field, the contributions of academic disciplines to the field, various perceptions of aging, and explores the basic theories, problems and prospects of gerontology. Required of all gerontology students.

SO 652 Seminar in Gerontology

The seminar will focus on a topic or a series of topics crucial to the analysis of the gerontological phenomenon, and will explore interdisciplinary techniques and findings. Required of all gerontology students.

SO 670 Selected Topics

A study of selected issues of particular interest to the students and instructor. May be taken more than once.

SO 695 Independent Study I

A planned program of individual study under the supervision of a member of the faculty.

SO 696 Independent Study II

A continuation of Independent Study I.

SO 698 Thesis I

Prerequisite: 15 graduate hours. Periodic meetings and discussion of the individual student's progress in the preparation of a thesis.

SO 699 Thesis II

A continuation ofThesis I.

Courses in Social Welfare Department of Sociology and Social Welfare

SW 651 Social Work with the Elderly I: Individuals, Families, Groups

This course will deal with the problems of aging, focusing particularly on the individual and the immediate family. Emphasis will be placed on the role of social work in helping the individual and the family to deal with issues of discrimination, medical and psychological problems, parent-child conflicts, death and dying.

SW 652 Human Services and the Elderly II: Programs, Planning, Policies

An introduction to the variety of private and public social service programs available to the elderly. An attempt will be made to identify gaps and propose alternatives for future programming.

Engineering student applies fundamental concepts to complex systems.

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M.B.A., University of New Haven

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L.L.B., Columbia University
Partner Law Firm Ritter, Silverstone & Fisher

Forbes, Raymond, Lecturer, Psychology
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Banking Department

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M.B.A., Babson College

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Hertel, Eugene S., Lecturer, Industrial Engineering
M.S., North Carolina State University
Sr. Chemical Engineer, Uniroyal Chemical Company

James, William H., Lecturer, Economics
Ph.D., Yale University

Klarberg, David P., Biology & Science
Ph.D., Virginia Polytechnic Institute

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Supervisor, Pratt & Whitney Aircraft

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M.S., University of New Haven

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M.S., University of Arizona

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M.B.A., Baruch College, C.P.A.

Loughlin, James C., Lecturer, Economics
Ph.D., Clark University

Manson, John R., Lecturer, Criminal Justice
M.S., University of Bridgeport
Commissioner, Connecticut Department of Correction

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Master of International Management, American Graduate School of International Management
Vice President, International Management, Union Trust Company

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State's Attorney for New Haven County

Mathew, Philip I., Lecturer, Economics
Ph.D., University of Connecticut

Maurice, Barbara, Lecturer, Management Science
M.S., University of Connecticut

McGuigan, Austin, Lecturer, Economics
J.D., Boston University School of Law
Chief State's Attorney State of Connecticut

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Controller, Hospital of Saint Raphael

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Senior Analyst, Armstrong Rubber Company

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Nann, Dorothy, Lecturer, Management Science
M.S., University of Connecticut
Research Analyst, Southern New England Telephone Company

Oaks, Jose, Lecturer, Accounting & Finance
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O'Connor, Frank, Lecturer, Sociology
M.S.W., University of Connecticut

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Tax Manager, Arthur Young & Company

O'Mahony, Michael, Lecturer, Industrial Engineering
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Pae, Ki-Tai, Lecturer, Economics & Management Science
Ph.D., University of Connecticut

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A.S., University of New Haven
Director Fiscal Services, Griffin Hospital Inc.

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Pinto, John D. Jr., Lecturer, Industrial Engineering
M.A.S., Boston University
Systems Analyst, I.O.C.S. (Input-Output Computer Systems)

Pratesi, Edward E., Lecturer, Finance
M.B.A., University of New Haven; C.P.A.

Puleo, Joseph A., Lecturer, Accounting
M.B.A., City University of New York; C.P.A.

Reffner, John A., Lecturer, Criminal Justice
Ph.D., University of Connecticut

Reid, Thomas A., Lecturer, Psychology
Psy.D., University of Illinois
Director, Hamden Mental Health Service

Rosen, Stephen S., Lecturer, Civil and Environmental Engineering
Ph.D., Polytechnic Institute of Brooklyn
Chief Environmental Engineer, Parsons, Brinkerhoff

Rubin, David, Lecturer, Accounting
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Ryack, Bernard L., Lecturer, Industrial Engineering
Ph.D., University of Massachusetts
Assistant Director, Human Factors Department, Naval Submarine Medical Research Laboratory

Ryba, Walter G. Jr., Lecturer, Economics
Ph.D., Fordham University; J.D., University of Connecticut

Salwan, Vern C., Lecturer, Finance
M.B.A., University of New Haven

Sandel, Susan, Lecturer, Sociology
Ph.D., Union Graduate School

Santello, Dolph, Lecturer, Public Administration
M.P.A., University of New Haven

Scalia, Frank A., Lecturer, Psychology
Ph.D., Carnegie-Mellon University
Assistant Vice President, Human Resources Development, Connecticut Mutual Life Insurance Company

Schwartz, Robert, Lecturer, Political Science
J.D., Rutgers Law School
Special Assistant to Senate Majority Leader, Connecticut Legislation and Staff Director of Democratic Caucus

Shapazian, Kenneth C., Lecturer, Finance
M.B.A., University of Connecticut

Silbert, Jonathan E., Lecturer, Criminal Justice
J.D., Harvard Law School
Partner, Garrison, Kahn, Crane & Silbert, Attorneys at Law

Smith, W. Reed, Lecturer, Management Science
B.S., Marietta College
Manager Operations Research, Uniroyal Chemical

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Director and Coordinator of the Computer Programming Training Easter Seal Rehabilitation Center

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Director of Industrial Relations, Electric Boat

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J.D., University of Cincinnati

Steinberg, Marvin A., Lecturer, Psychology
Ph.D., University of Texas
Assistant Director, Hamden Mental Health Service

Sylvia, Edwin A., Lecturer, Psychology
M.A., University of Southern Mississippi
Chief Management Development/Training, Electric Boat Division, General Dynamics Corporation

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Terrance, Dwight, Lecturer, Industrial Engineering
B.S., SUNY at Buffalo

Tobin, Joseph M., Lecturer, Business Law
J.D., Fordham University
Tobin & Levine, Attorneys at Law

Todt, Malcolm S., Lecturer, Accounting
M.B.A., Babson College
Assistant Treasurer, Insilco Corporation

Tolonen, Karl, Lecturer, Environmental Sciences
Ph.D., Yale University
Ecological Consultant to the New Haven Water Company

Tomascik, Robert, Lecturer, Industrial Engineering
B.A., University of Connecticut

Tritton, Louise, Lecturer, Biology and Science
Ph.D., Yale University

Tylaska, Theodore T., Lecturer, Electrical Engineering
Ph.D., University of Houston
Head, Computer Technology Branch,
Naval Underwater Systems Center

Usher, Theron, Lecturer, Electrical Engineering
D.Eng., Yale University

Washburn, Robert, Lecturer, Management Science
Ph.D., Cornell University

Weber, David, Lecturer, Economics
Ph.D., Brown University

Wilson, Glenn T., Lecturer, Finance
M.B.A., Columbia University

Welsh, Walter, Lecturer, Accounting
L.L.M. (in Taxation), New York University School of Law;
J.D., University of Connecticut Law School

Zietlow, David, Lecturer, Management Science
M.L.I.R., Michigan State University
Senior Personnel Administrator, Sikorsky Aircraft

Zottola, Armand, Lecturer, Economics
Ph.D., Catholic University of America

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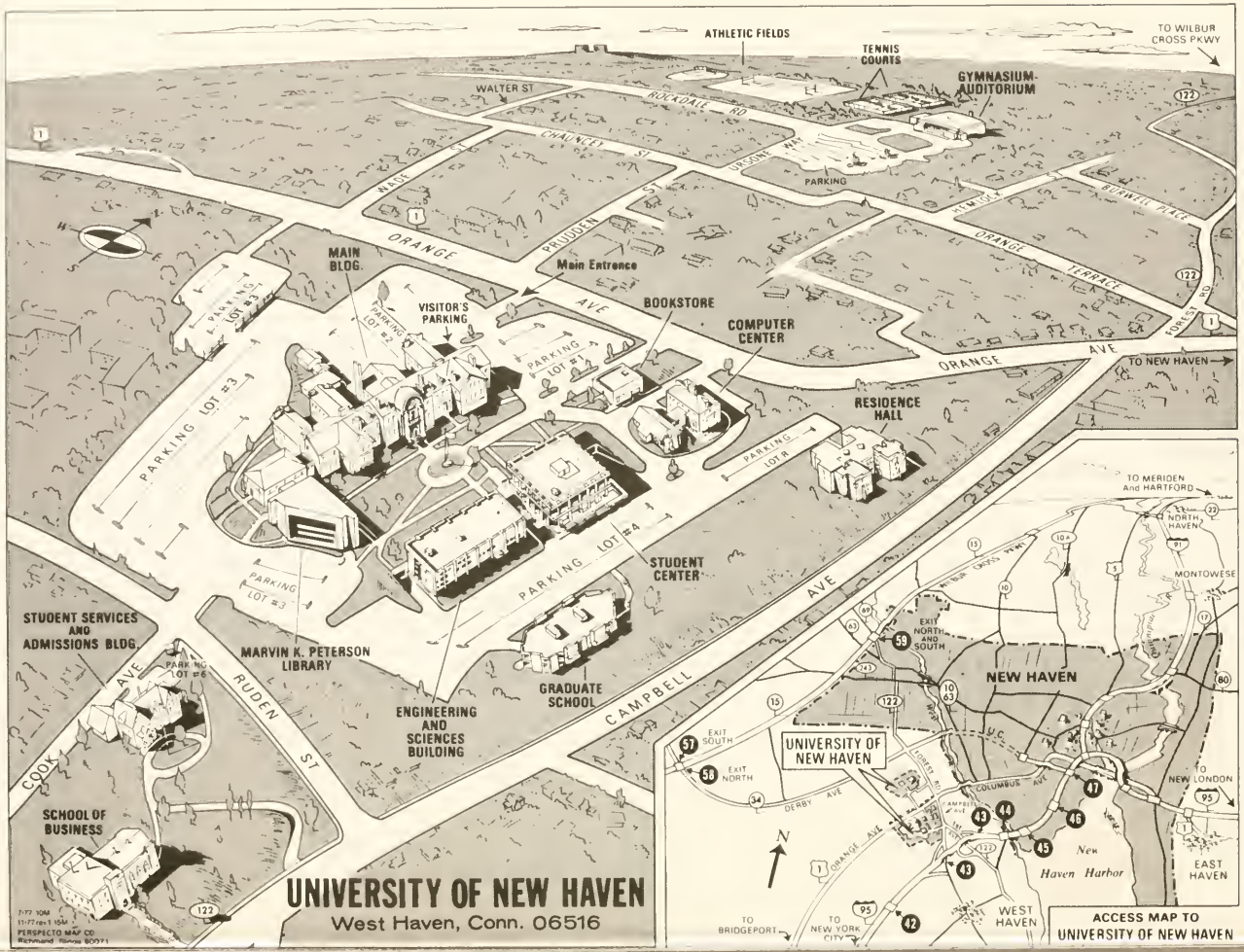
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West Haven, Conn. 06516
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EXIT NORTH AND SOUTH
NEW HAVEN
EXIT SOUTH
EXIT NORTH
UNIVERSITY OF NEW HAVEN
DERBY AVE
COLUMBUS AVE
TO NEW LONDON
New Haven Harbor
EAST HAVEN
WEST HAVEN
TO BRIDGEPORT
TO NEW YORK CITY
ACCESS MAP TO UNIVERSITY OF NEW HAVEN
PERSPECTO MAP CO

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University of New Haven, West Haven, Connecticut 06516—Tel. (203) 934-6321

Graduate School Application for Admission

This application must be filled out and returned to the Graduate School, University of New Haven, West Haven, Connecticut 06516, along with:

1. A $15 nonrefundable application fee. This application cannot be processed unless accompanied by the fee.
2. Official transcripts forwarded by all colleges previously attended.
3. Two letters of recommendation. (Recommendation Forms are attached)

(Please Print or Type) Date .....

☐ Mr.
Legal Name ☐ Ms. .....
Last First Middle

Names different from above that may appear on academic records .....

Permanent Address ..... Telephone No. ( ) .....
Street Area Code

.....
City or Post Office State Zip Code

Mailing Address (if different from above) .....
Street City or Post Office State Zip Code

Birth Date ..... Social Security No. .....

Please indicate the program for which you are applying: .....

If you desire a concentration within that program of study, please indicate: .....

Where do you plan to attend most of your classes?

☐ at the West Haven campus? ☐ at an off campus center? (specify: .....)

Do you plan to study ☐ part time ☐ full time

Indicate the trimester you intend to start graduate study.

☐ September, 19..... ☐ January, 19..... ☐ April, 19..... ☐ Summer, 19.....

Scholastic Record

List in chronological order all colleges and universities attended.

Name of School	Location	Attendance From — To	Date of Graduation	Degree	Major Program

Employment Record

List in chronological order all employment from present position to include the past five years.

Position Held	Date	Name of Employer	Location	Telephone No.

References

Name	Title	Organization

Citizenship

Are you a citizen of the U.S.? ☐ YES ☐ NO (Country of citizenship _____)

If answer is no,

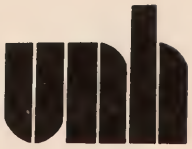
1. What is your visa classification? _____
2. Indicate date TOEFL (Test of English as a Foreign Language) examination was taken and remit scores with application

   Date _____ Place _____ Scores _____

The undersigned certify that the information contained in this application and in any supporting records or material is true and correct. It is understood that incorrect information or falsification may be grounds for disapproval of this application or dismissal from the university.

. . . . . .

Signature of applicant Date



University of New Haven, West Haven, Connecticut 06516—Tel. (203) 934-6321

RECOMMENDATION FORM

To be completed and returned directly to:

UNIVERSITY OF NEW HAVEN GRADUATE SCHOOL
ADMISSIONS SECRETARY

Name of applicant _____ Undergraduate college _____

Program to which applicant is applying _____

TO THE RESPONDENT: The above-named person has applied for admission to the Graduate School of the University of New Haven. Please provide us with your estimate of the qualifications of this candidate and of the reasonableness of his or her academic goals. It will help us if you indicate how long and in what capacity you have been acquainted with the candidate. If possible, compare his or her competence, motivation and intellectual ability with others you have known with similar goals. A candid, thoughtful statement, free of exaggeration will be most useful to us. Please use reverse side of this sheet when necessary.

In conformity with the Family Educational Rights and Privacy Act of 1974 we cannot regard letters of recommendation as confidential unless students waive their right to inspect such letters. If you wish the School to keep this information confidential, please have the applicant sign the waiver on the back of this page.

over, please

Recommendation, cont'd.

I: ☐ recommend strongly ☐ recommend ☐ recommend with reservation

☐ do not recommend this candidate for graduate study at the University of New Haven.

Name _____

Position _____

Address _____

Date _____

Signature _____

Since the applicant expects your response to be considered as part of his/her application, we plan to defer action on the application until hearing from you.

Thank you for your assistance

WAIVER

I hereby waive my right to inspect any letters of recommendation written to the University of New Haven Graduate School on my behalf by _____.

(Applicant's Signature) _____

University of New Haven, West Haven, Connecticut 06516—Tel. (203) 934-6321

RECOMMENDATION FORM

To be completed and returned directly to:

UNIVERSITY OF NEW HAVEN GRADUATE SCHOOL
ADMISSIONS SECRETARY

Name of applicant _____ Undergraduate college _____

Program to which applicant is applying _____

TO THE RESPONDENT: The above-named person has applied for admission to the Graduate School of the University of New Haven. Please provide us with your estimate of the qualifications of this candidate and of the reasonableness of his or her academic goals. It will help us if you indicate how long and in what capacity you have been acquainted with the candidate. If possible, compare his or her competence, motivation and intellectual ability with others you have known with similar goals. A candid, thoughtful statement, free of exaggeration will be most useful to us. Please use reverse side of this sheet when necessary.

In conformity with the Family Educational Rights and Privacy Act of 1974 we cannot regard letters of recommendation as confidential unless students waive their right to inspect such letters. If you wish the School to keep this information confidential, please have the applicant sign the waiver on the back of this page.

over, please

Recommendation, cont'd.

I: ☐ recommend strongly ☐ recommend ☐ recommend with reservation

☐ do not recommend this candidate for graduate study at the University of New Haven.

Name _____

Position _____

Address _____

Date _____

Signature _____

Since the applicant expects your response to be considered as part of his/her application, we plan to defer action on the application until hearing from you.

Thank you for your assistance

WAIVER

I hereby waive my right to inspect any letters of recommendation written to the University of New Haven Graduate School on my behalf by _____ .

(Applicant's Signature) _____